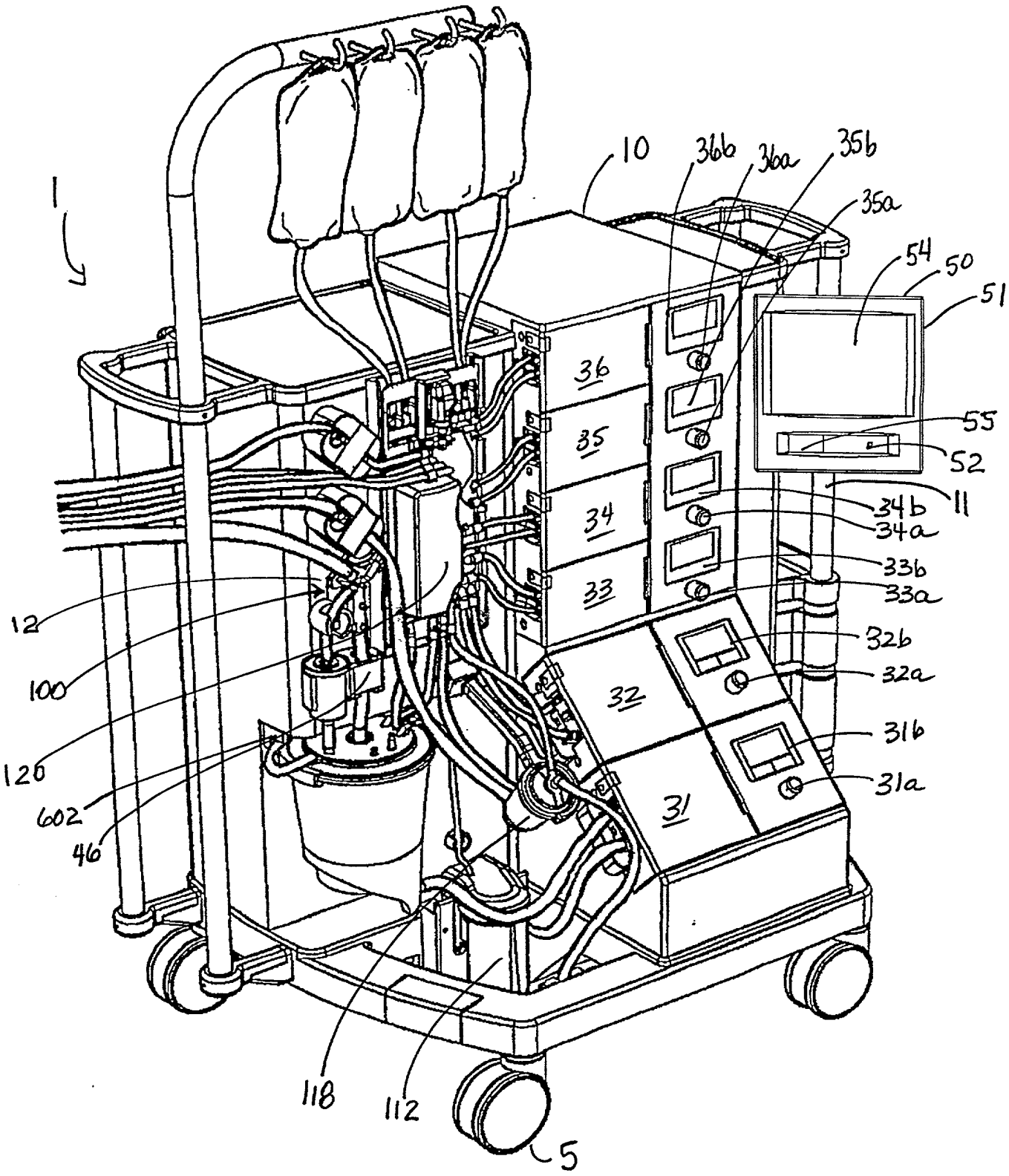
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11
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33b
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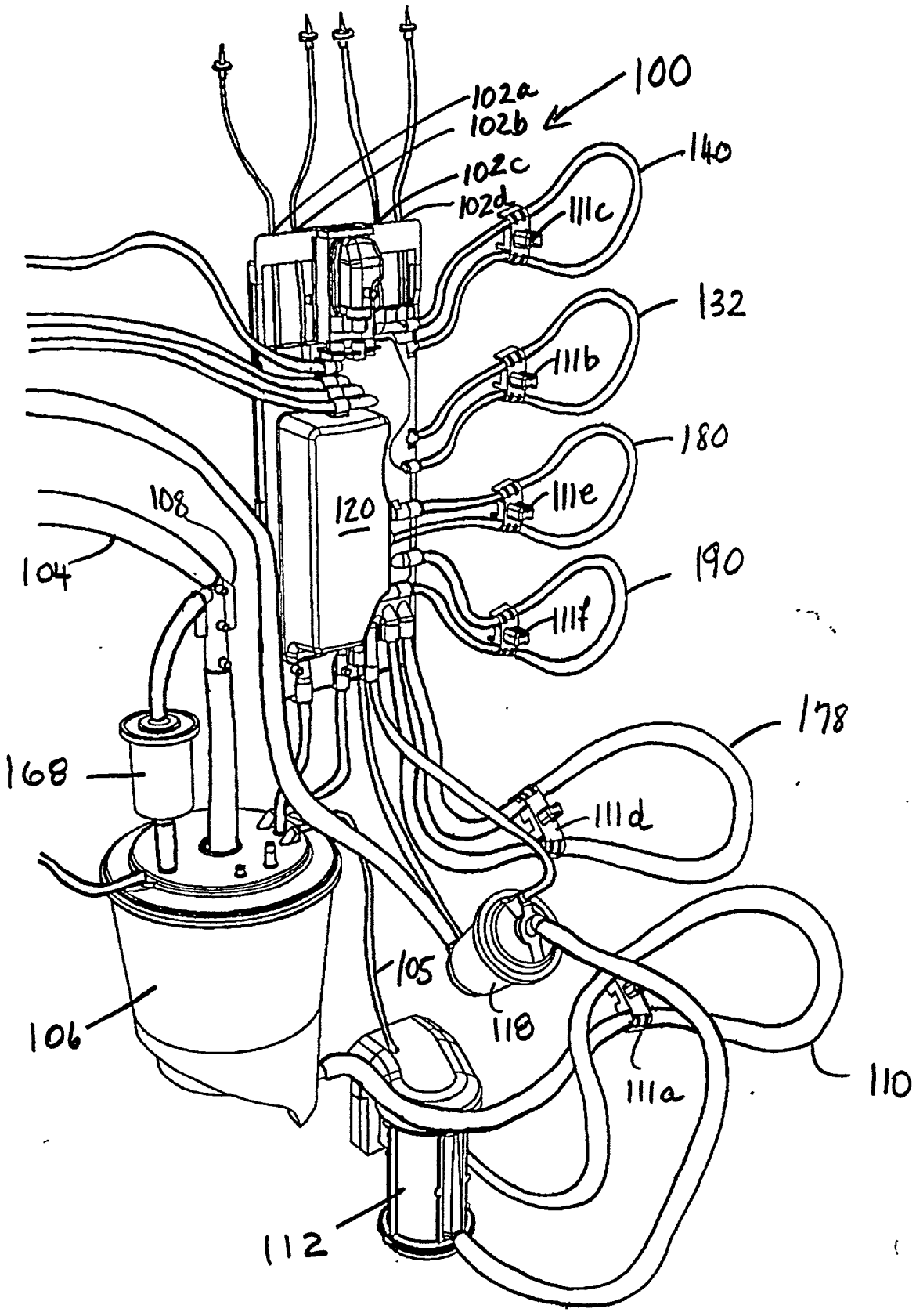
12
100
120
602
46
118
112
5

FIG. 1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102d
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111c
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111e
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111f
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104
168
106
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111a
110
112

FIG. 2A

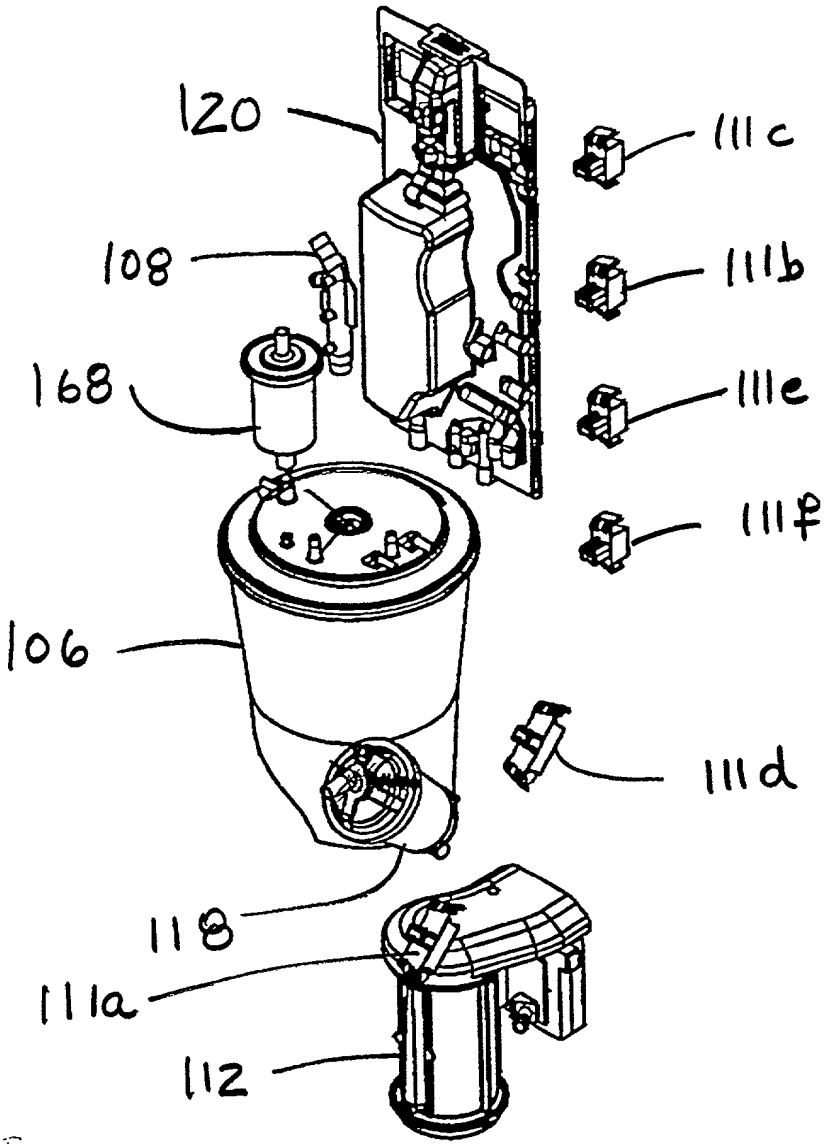


FIG.2B

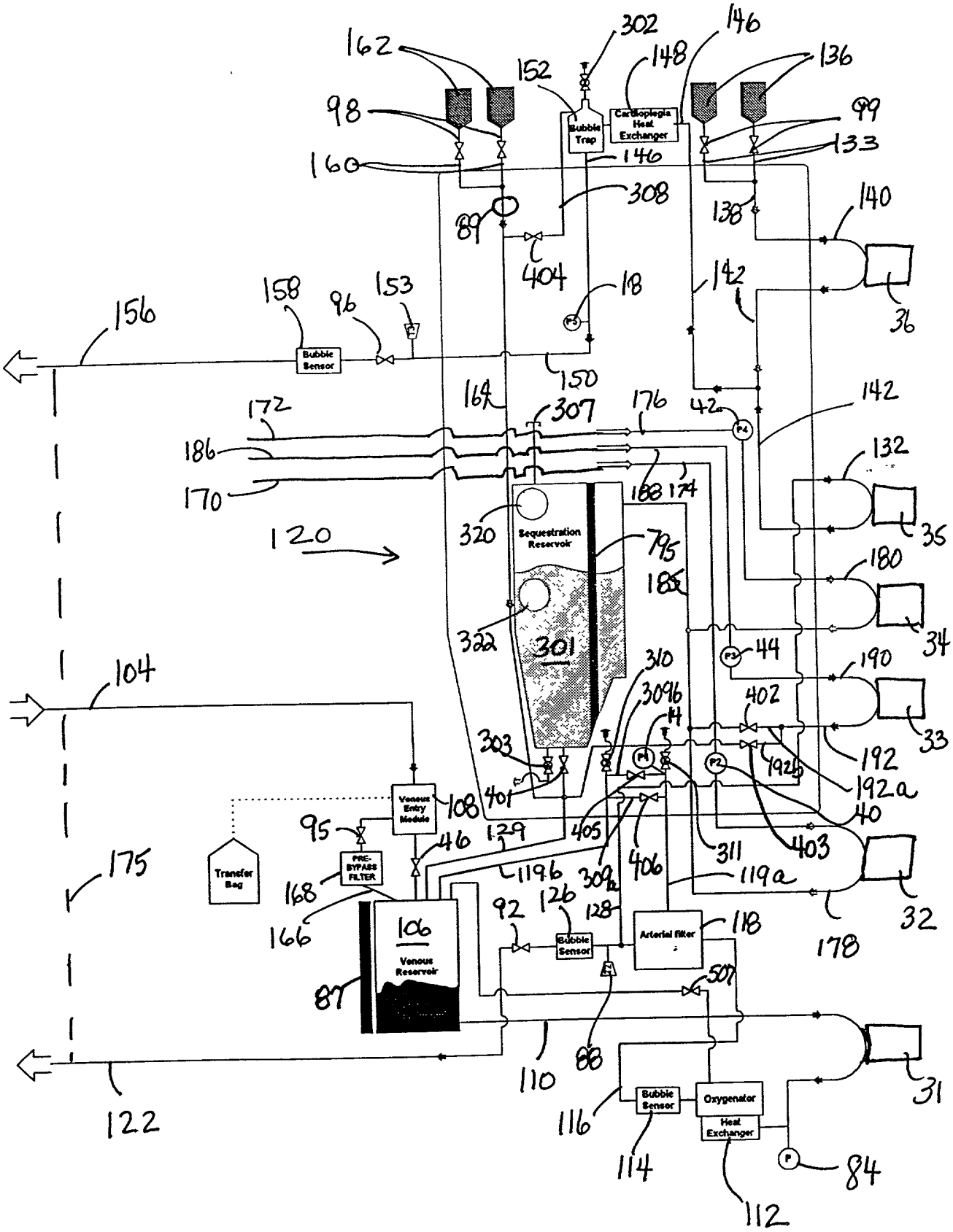
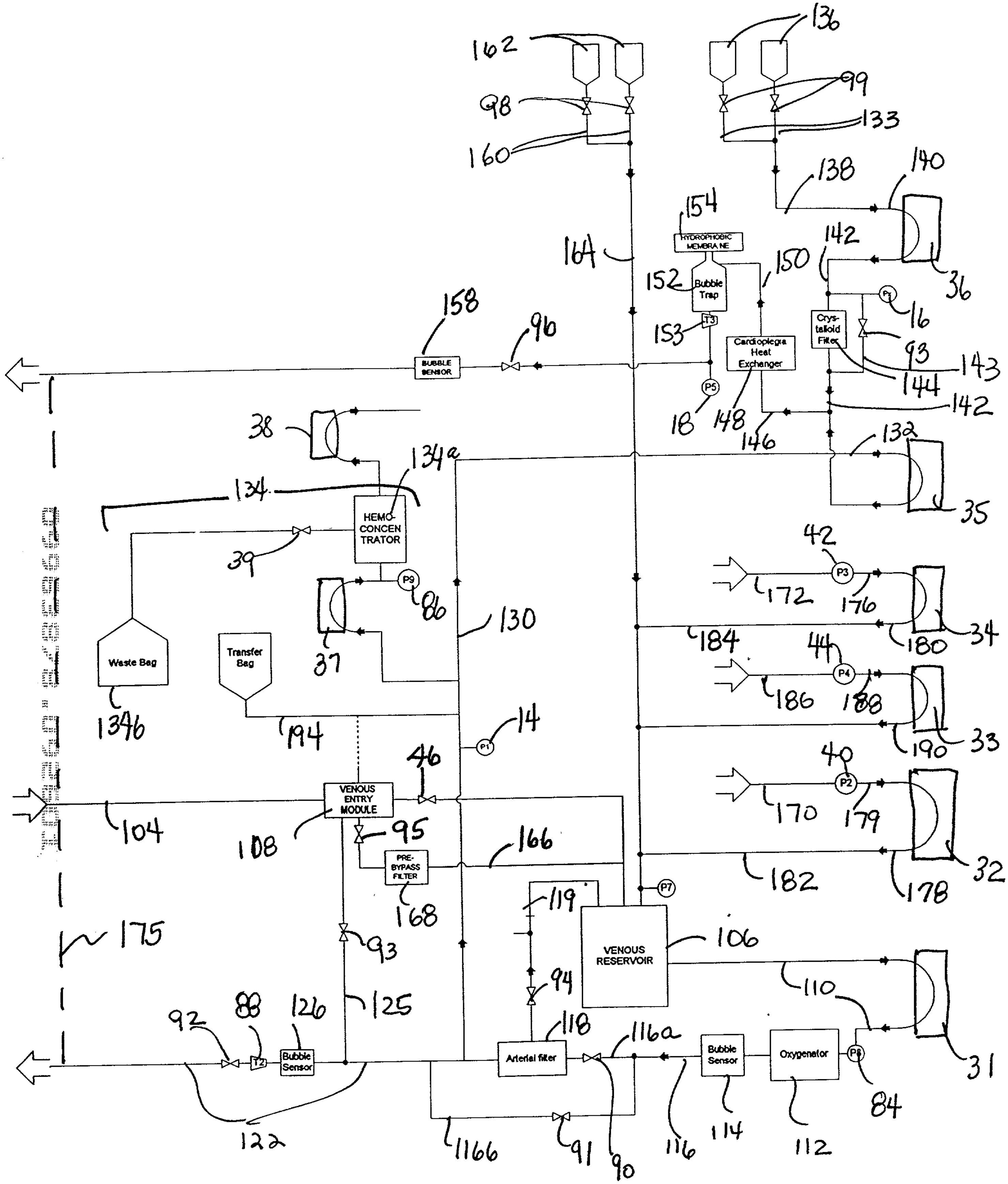

Bubble Trap
Cardioplegia Heat Exchanger
Bubble Sensor
Sequestration Reservoir
Venous Entry Module
PRE-BYPASS FILTER
Transfer Bag
Venous Reservoir
Bubble Sensor
Arterial filter
Bubble Sensor
Oxygenator
Heat Exchanger
120
301
106

FIG. 3A


HYDROPHOBIC MEMBRANE
Bubble Trap
Cardioplegia Heat Exchanger
Crystalloid Filter
BUBBLE SENSOR
HEMO-CONCENTRATOR
Waste Bag
Transfer Bag
VENOUS ENTRY MODULE
PRE-BYPASS FILTER
VENOUS RESERVOIR
Arterial filter
Bubble Sensor
Oxygenator

F/G. 3B

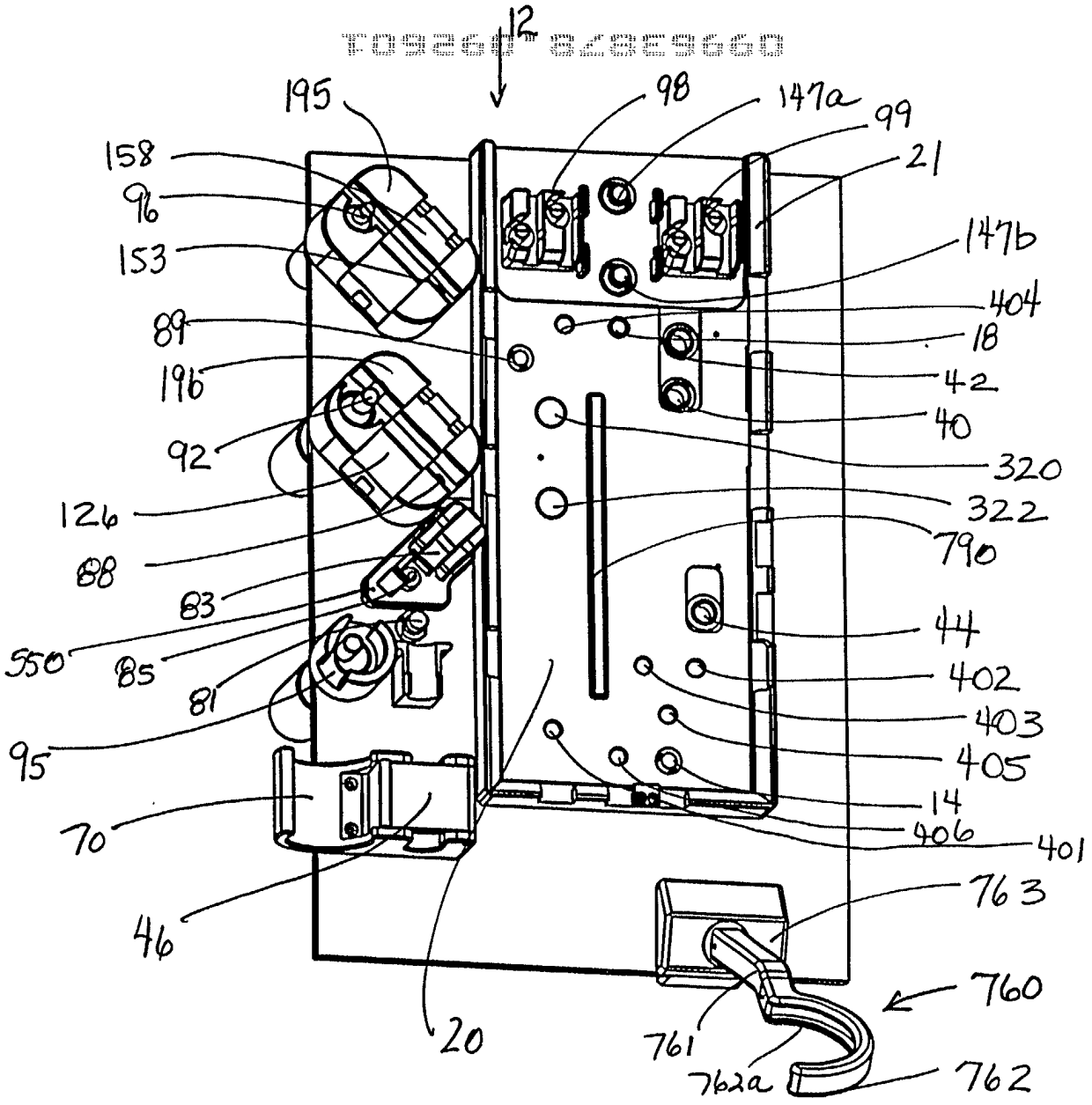


FIG. 4

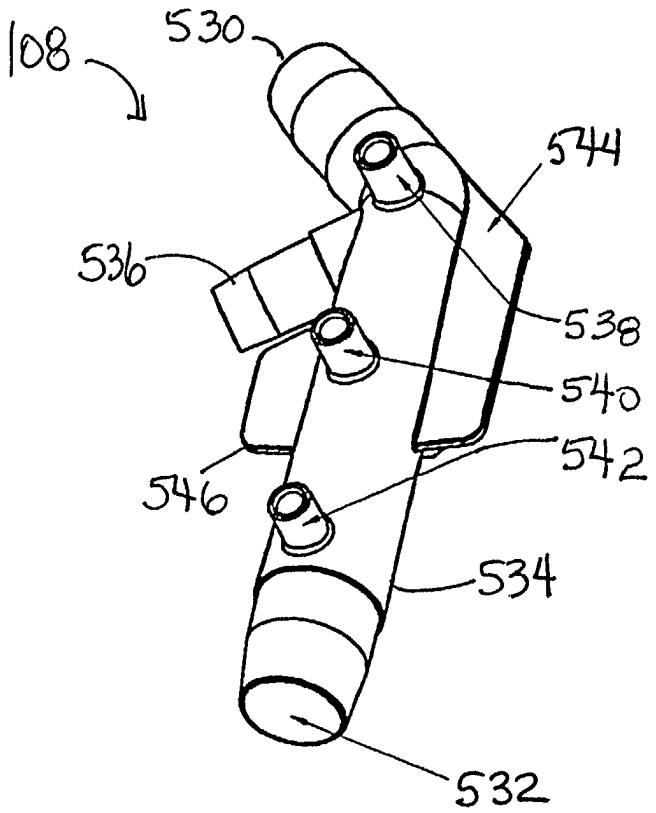

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FIG. 5A

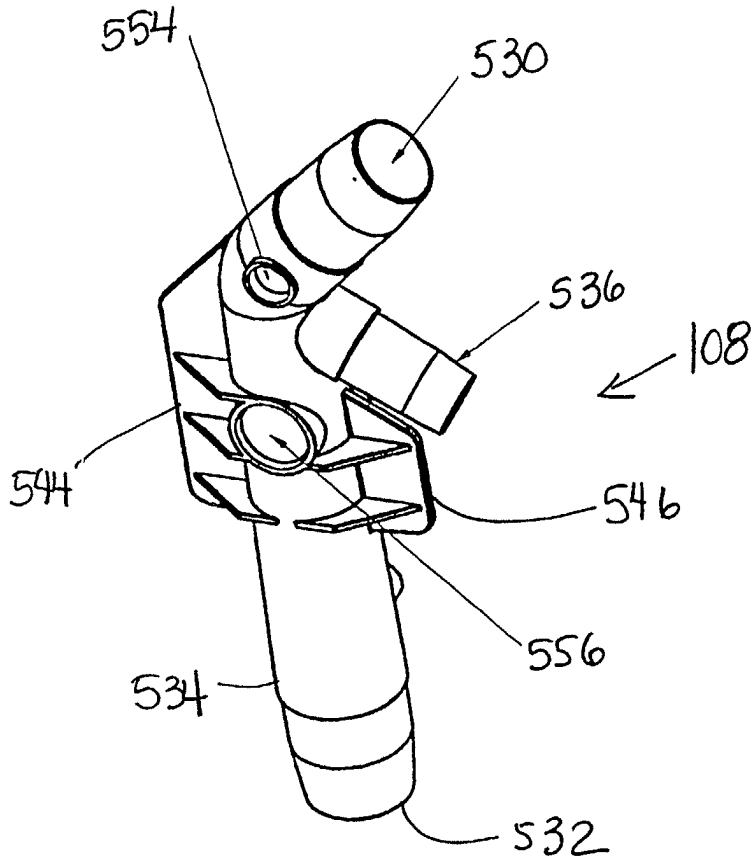
554
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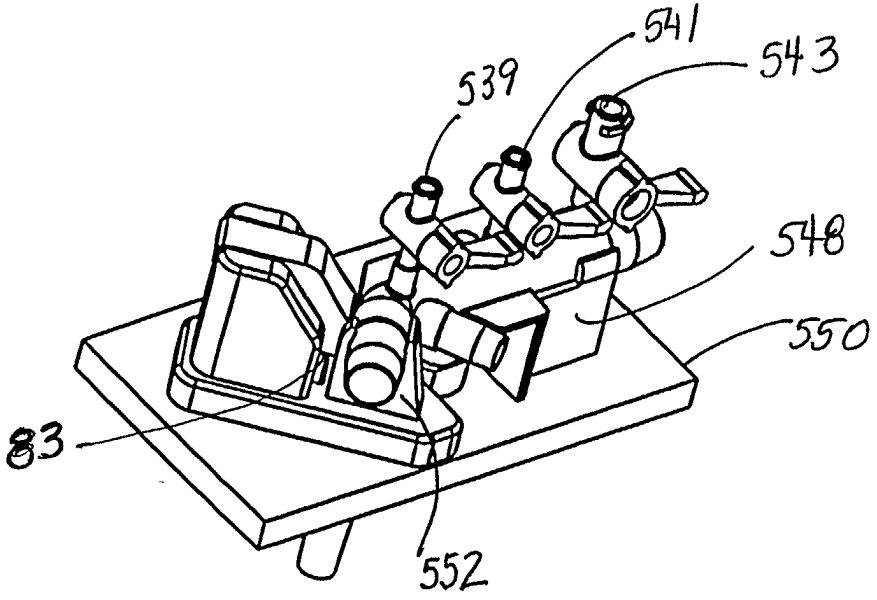
FIG. 5B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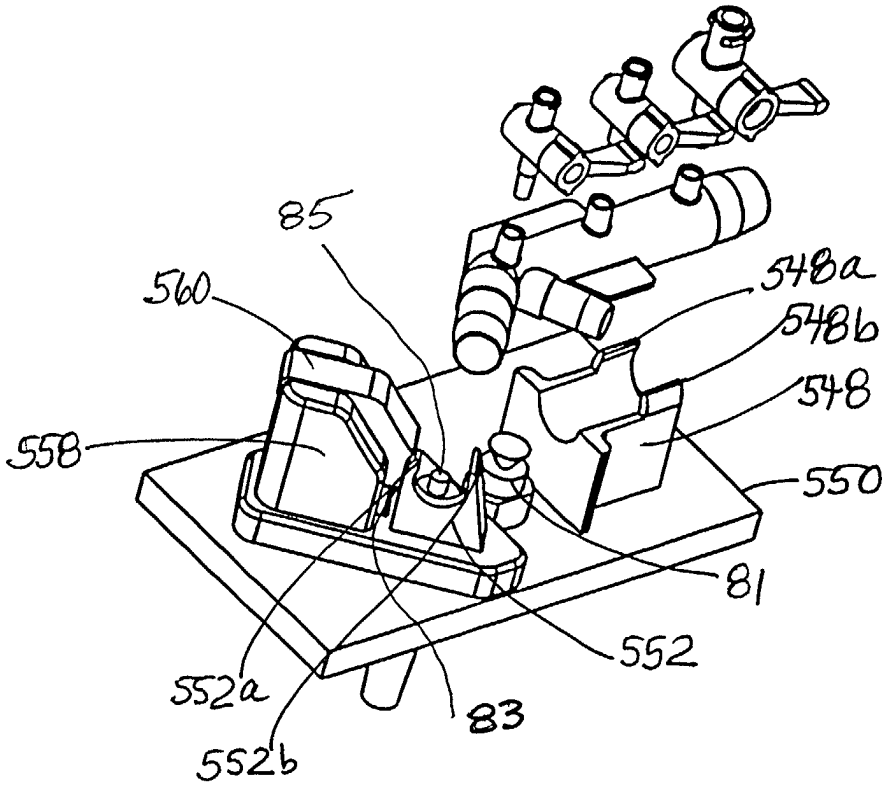
83
552

FIG. 5D


85
560
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548
558
550
81
552
552a
83
552b

FIG. 5C

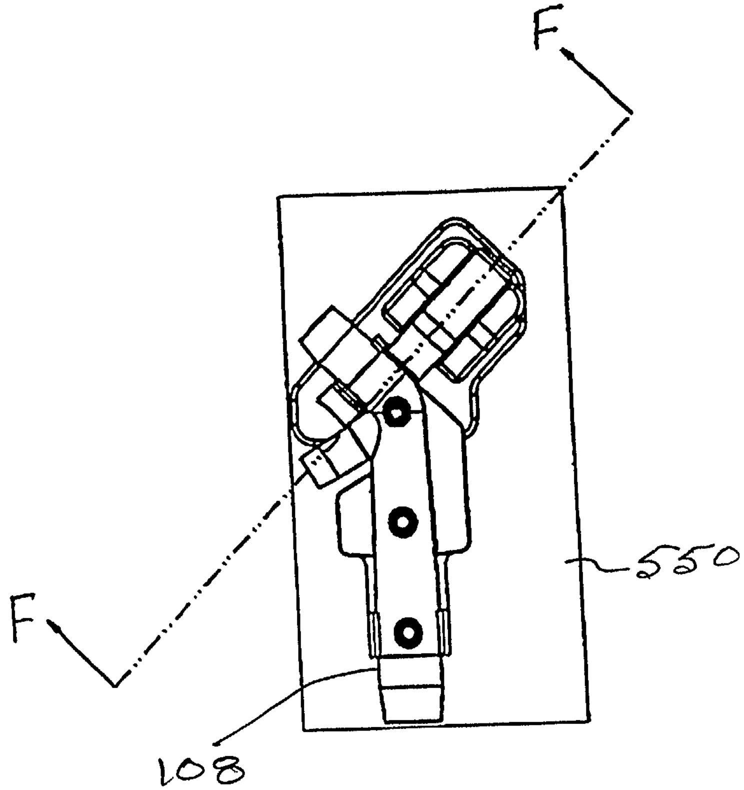


FIG. 5E

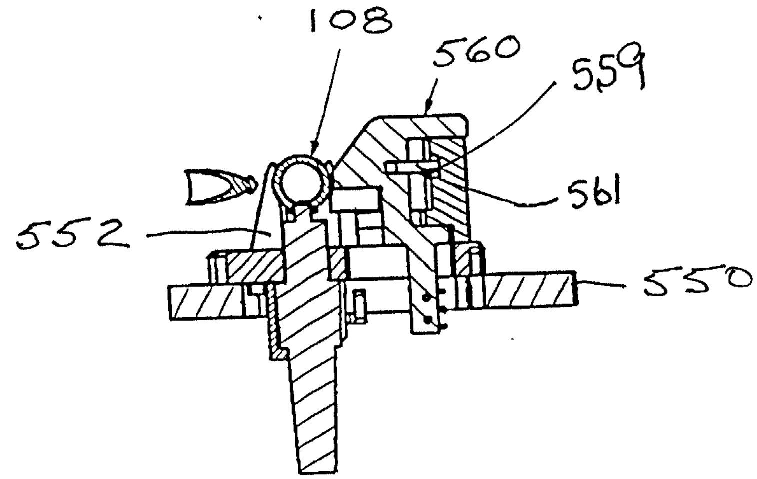


FIG. 5F

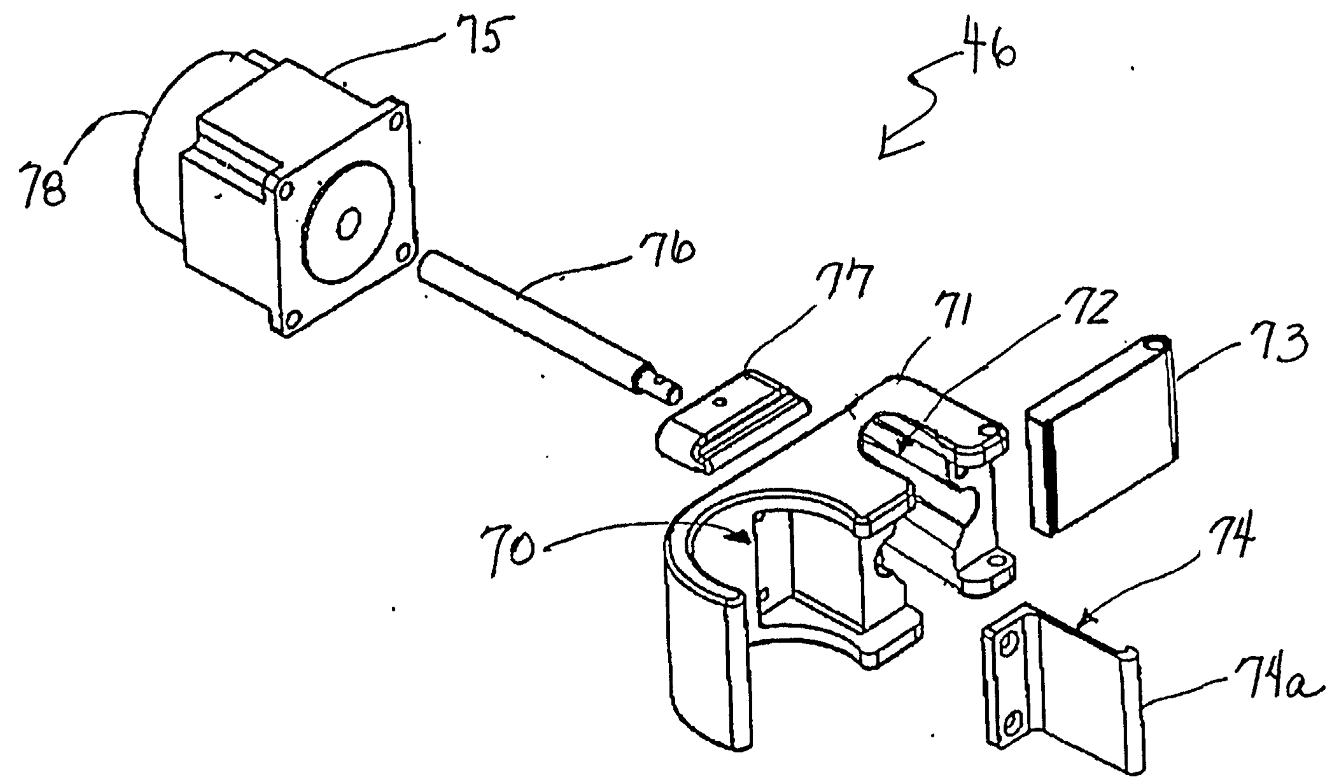


FIG. 6A

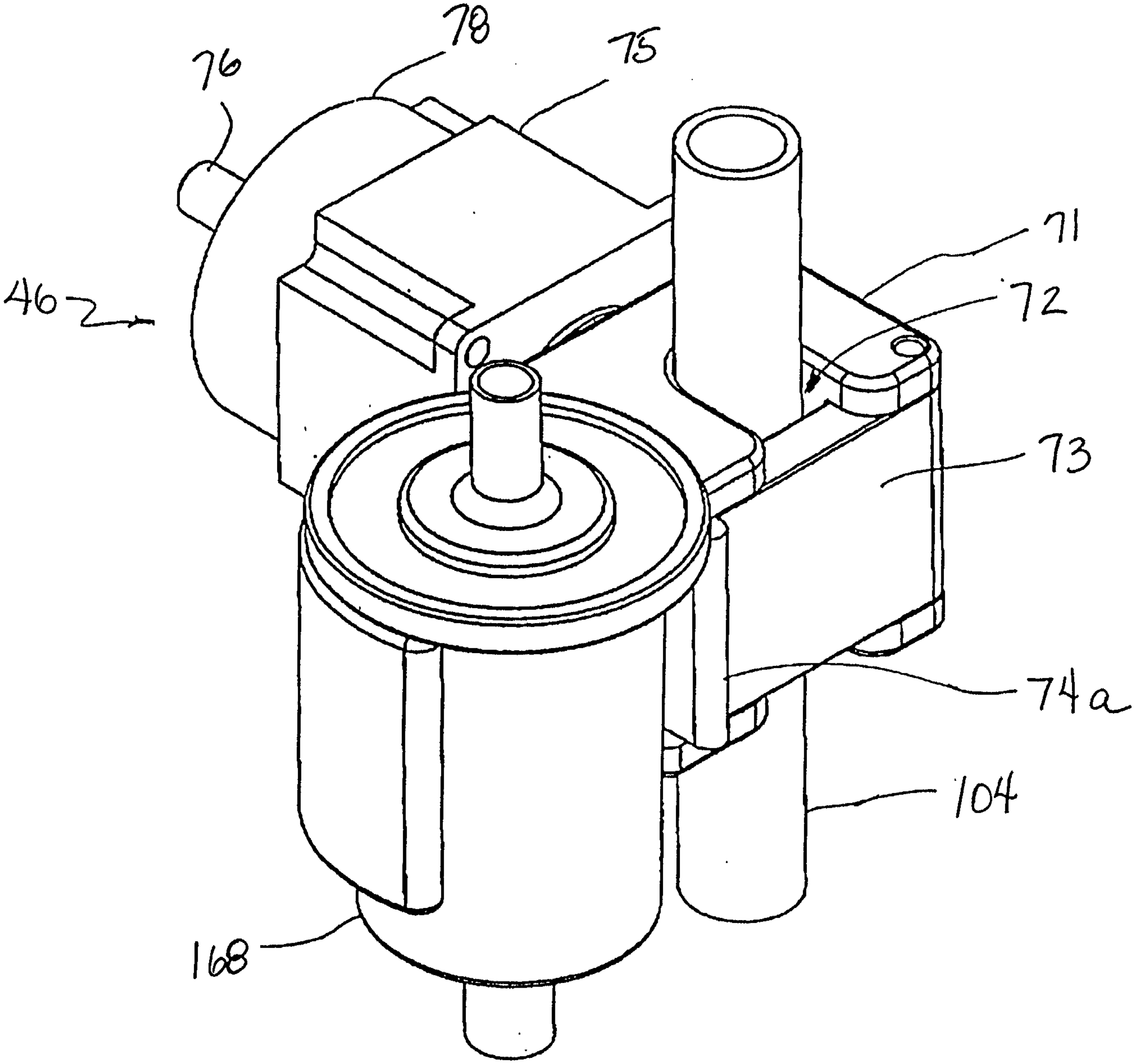


FIG. 6B

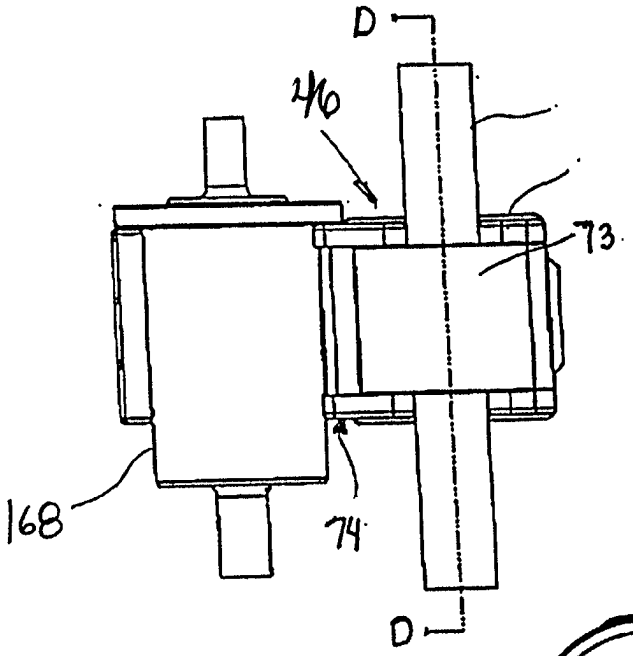


FIG. 6C

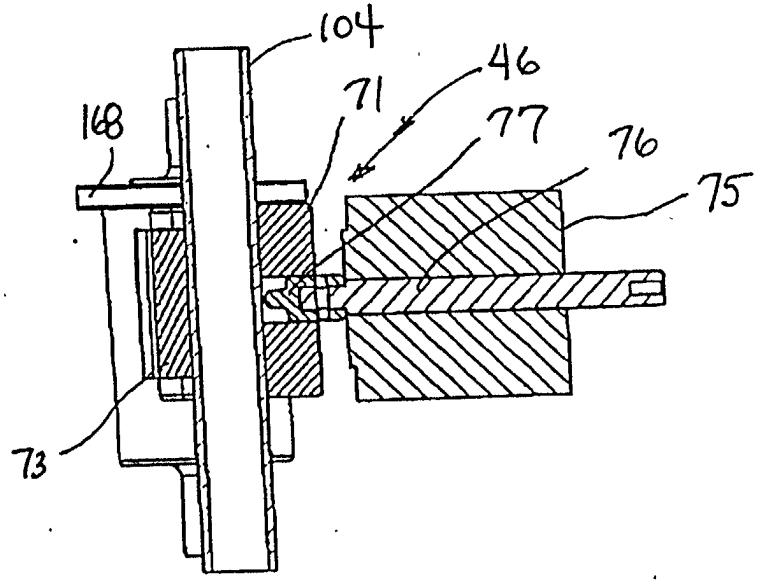


FIG. 6D

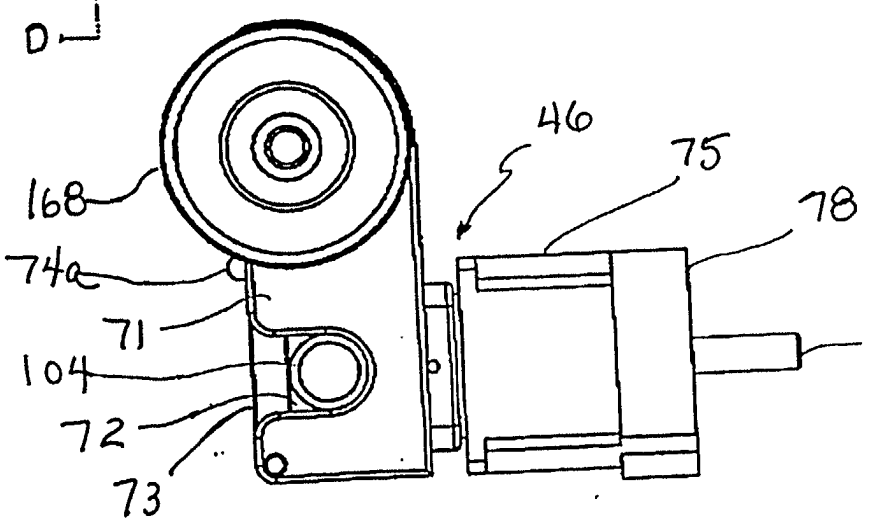


FIG. 6E

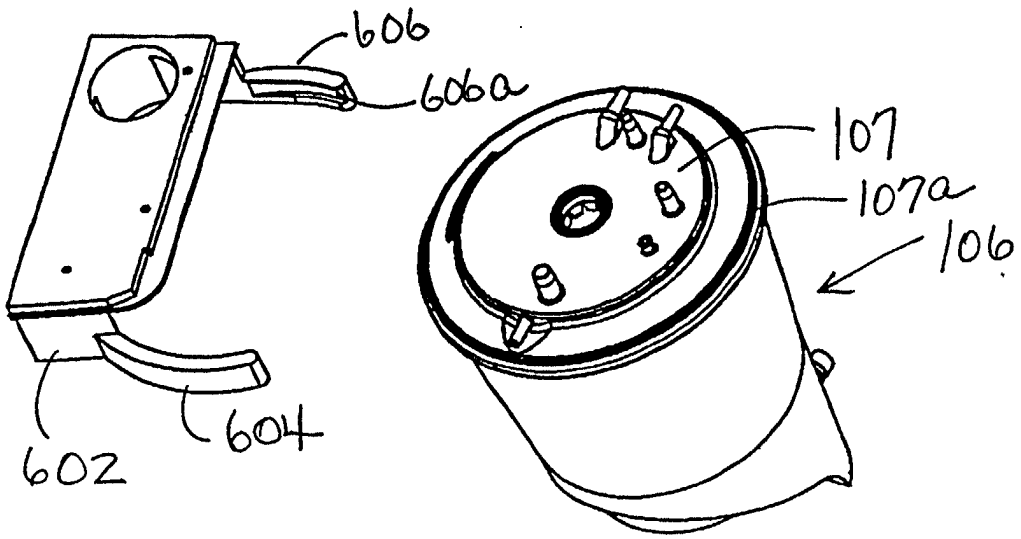


FIG. 7A

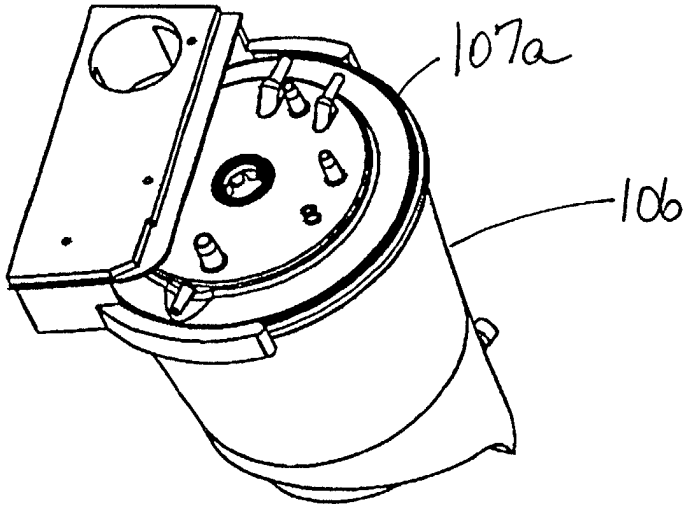
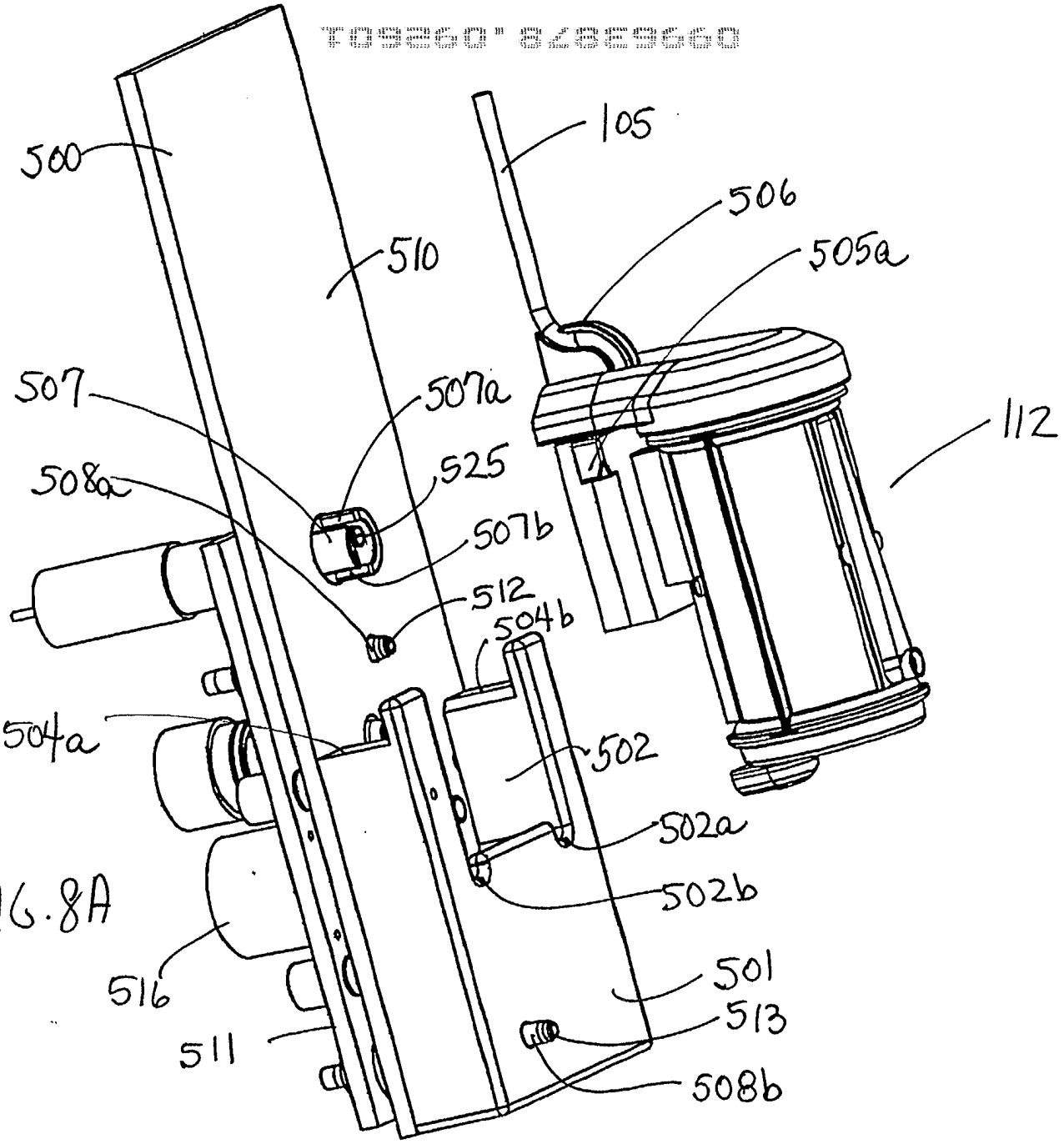


FIG. 7B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508b

FIG. 8A

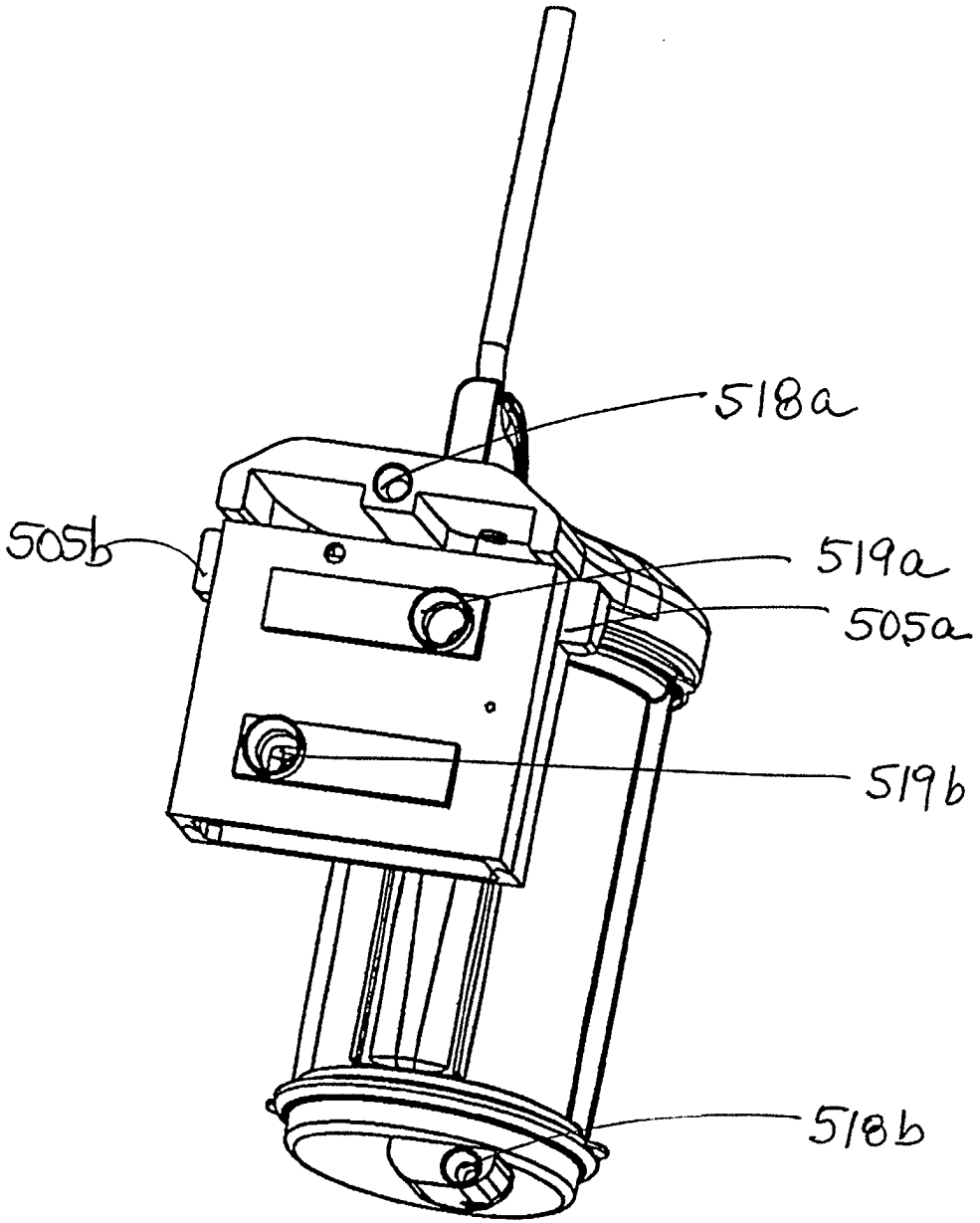


FIG. 8B

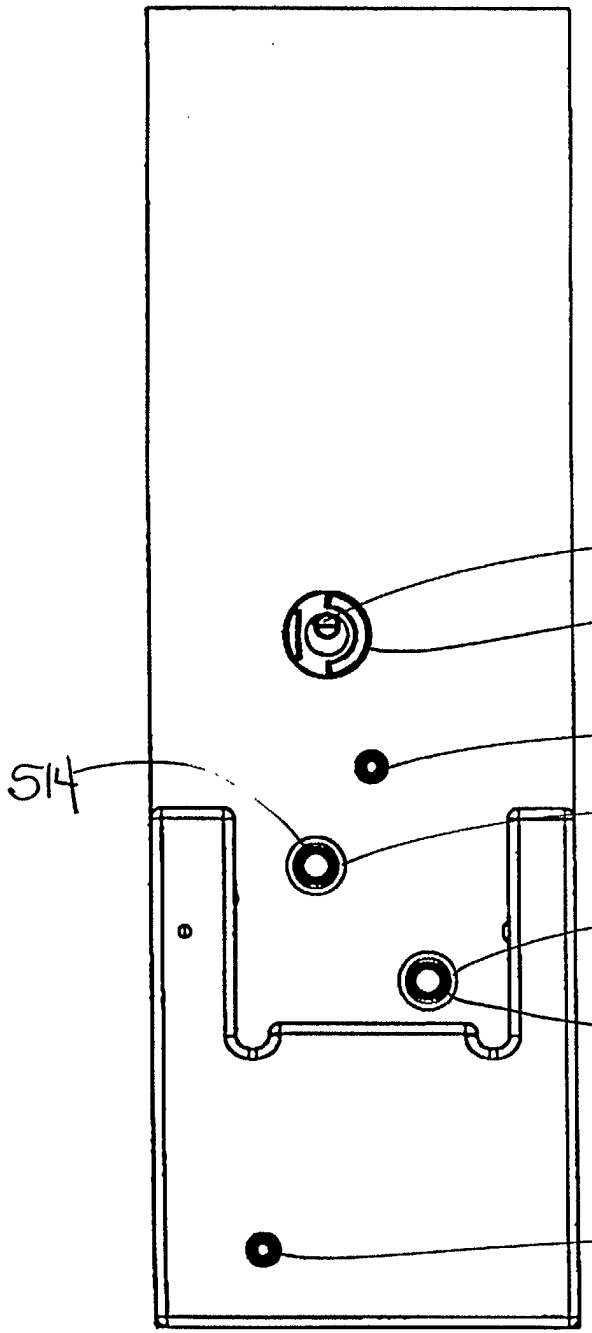


FIG. 8C

FIG. 8D

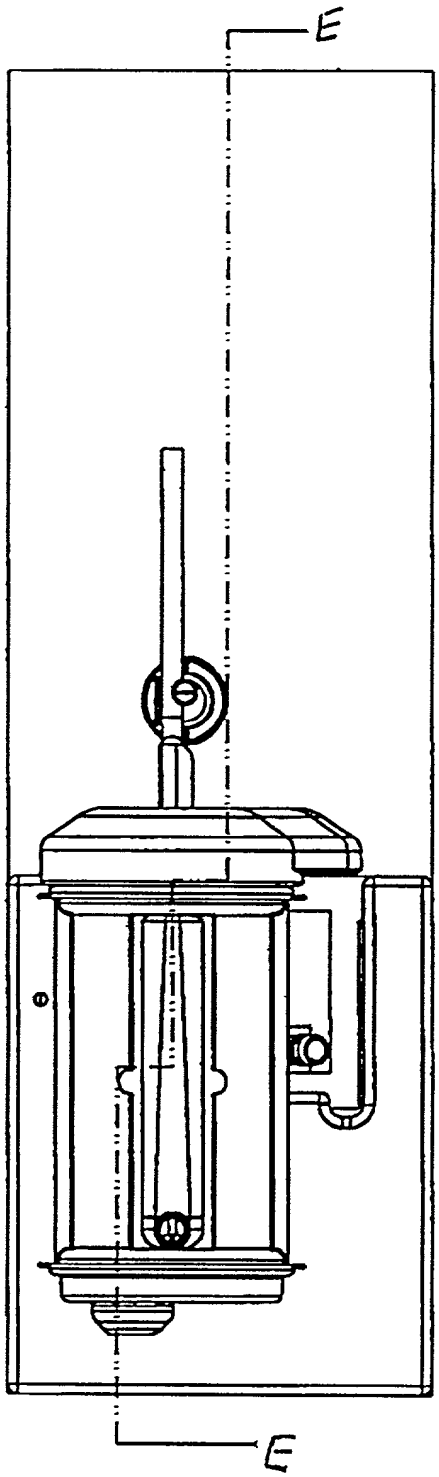
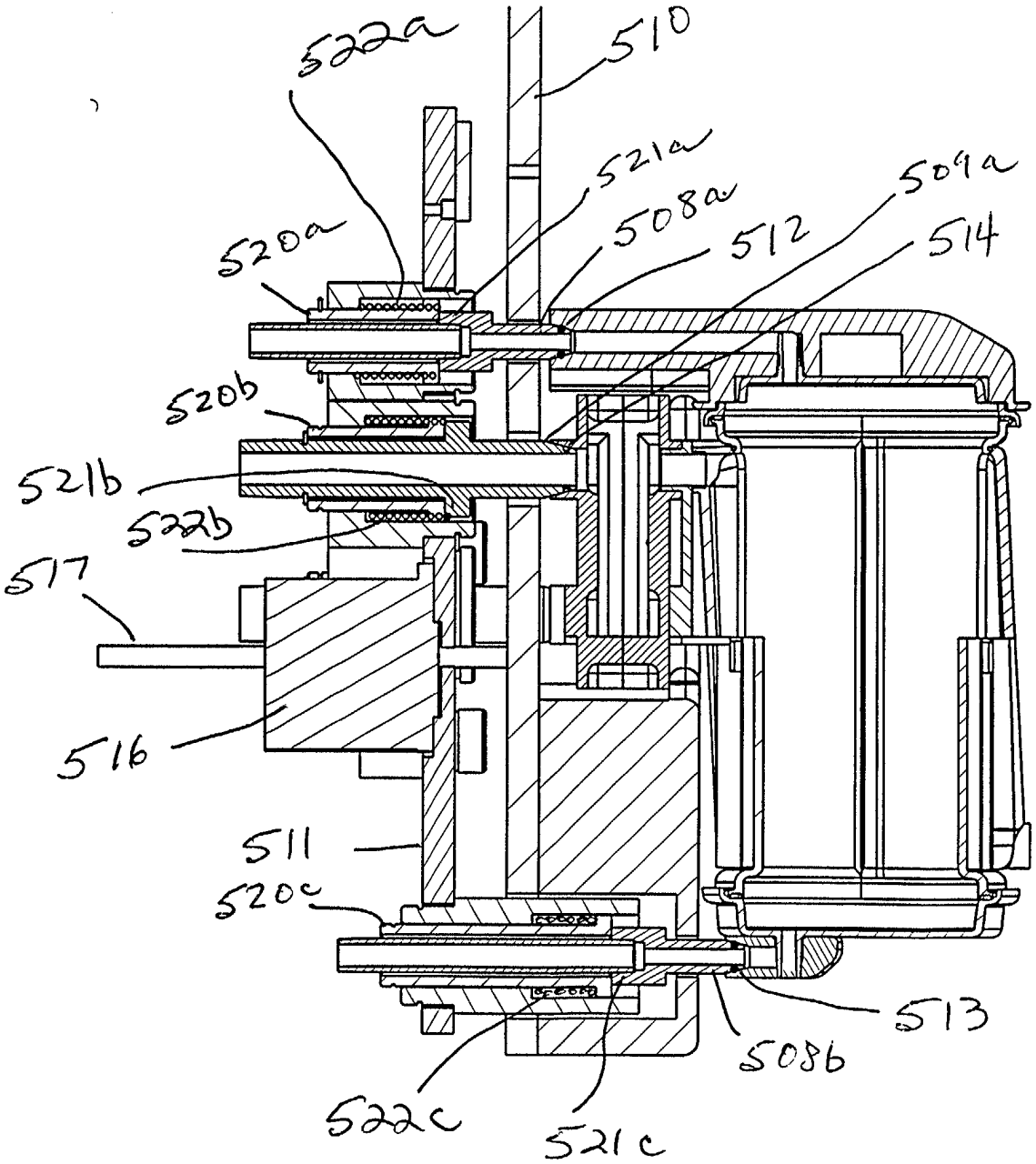


FIG. 8E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522b
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511
520c
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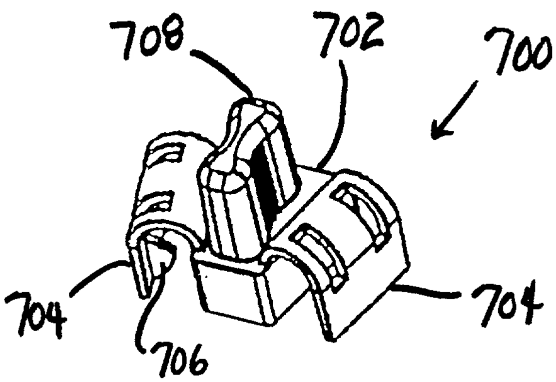


FIG. 9A

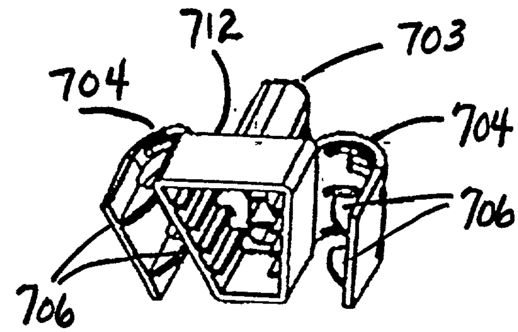


FIG. 9B

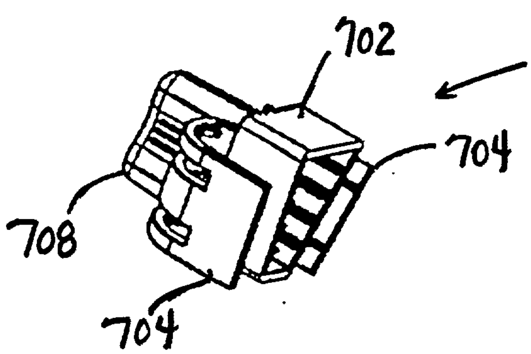


FIG. 9C

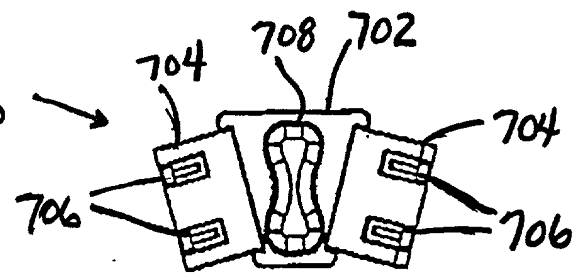


FIG. 9D

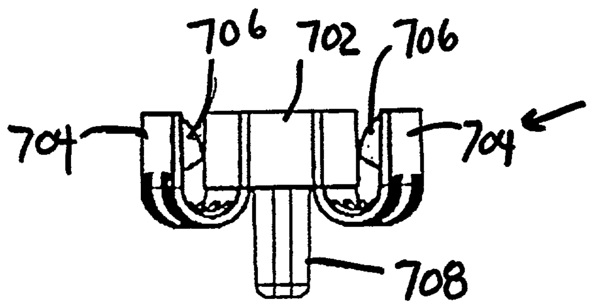


FIG. 9E

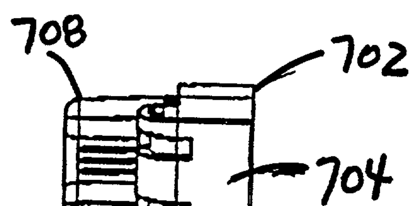


FIG. 9F

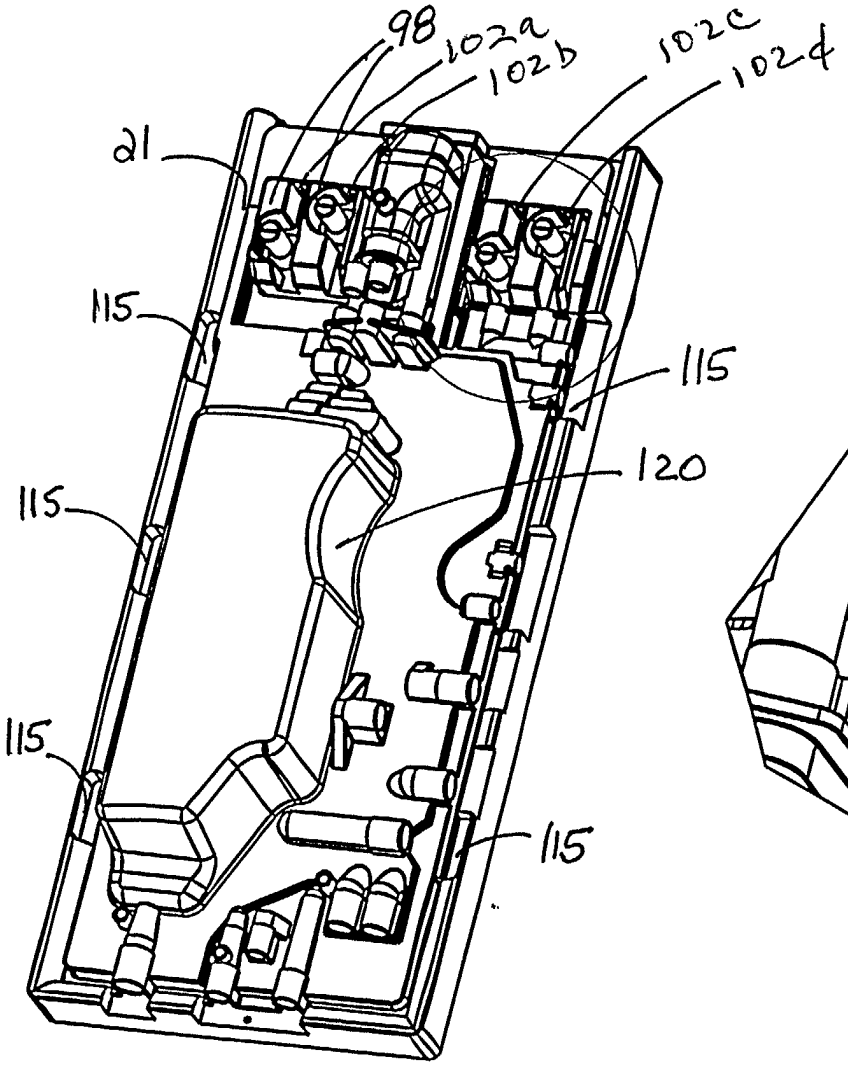


FIG. 10A

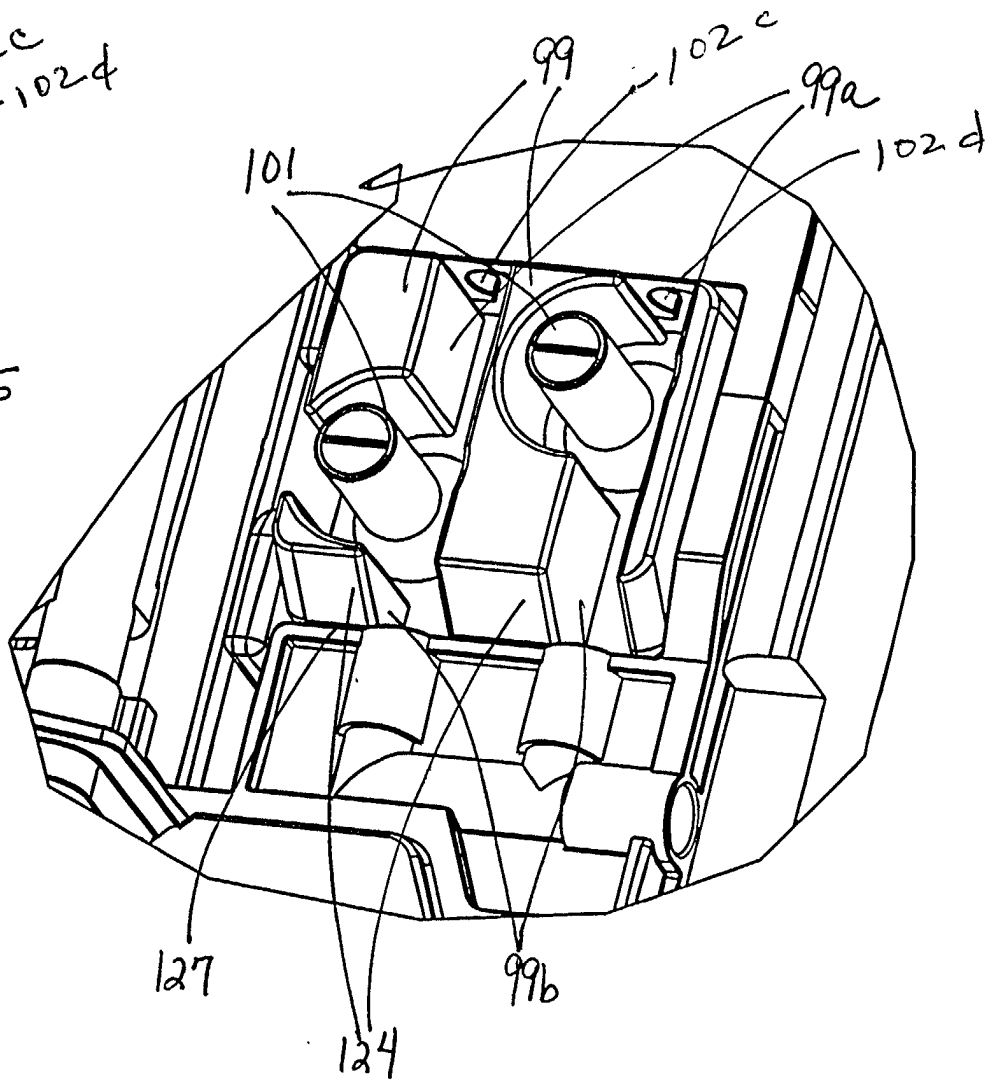


FIG. 10B

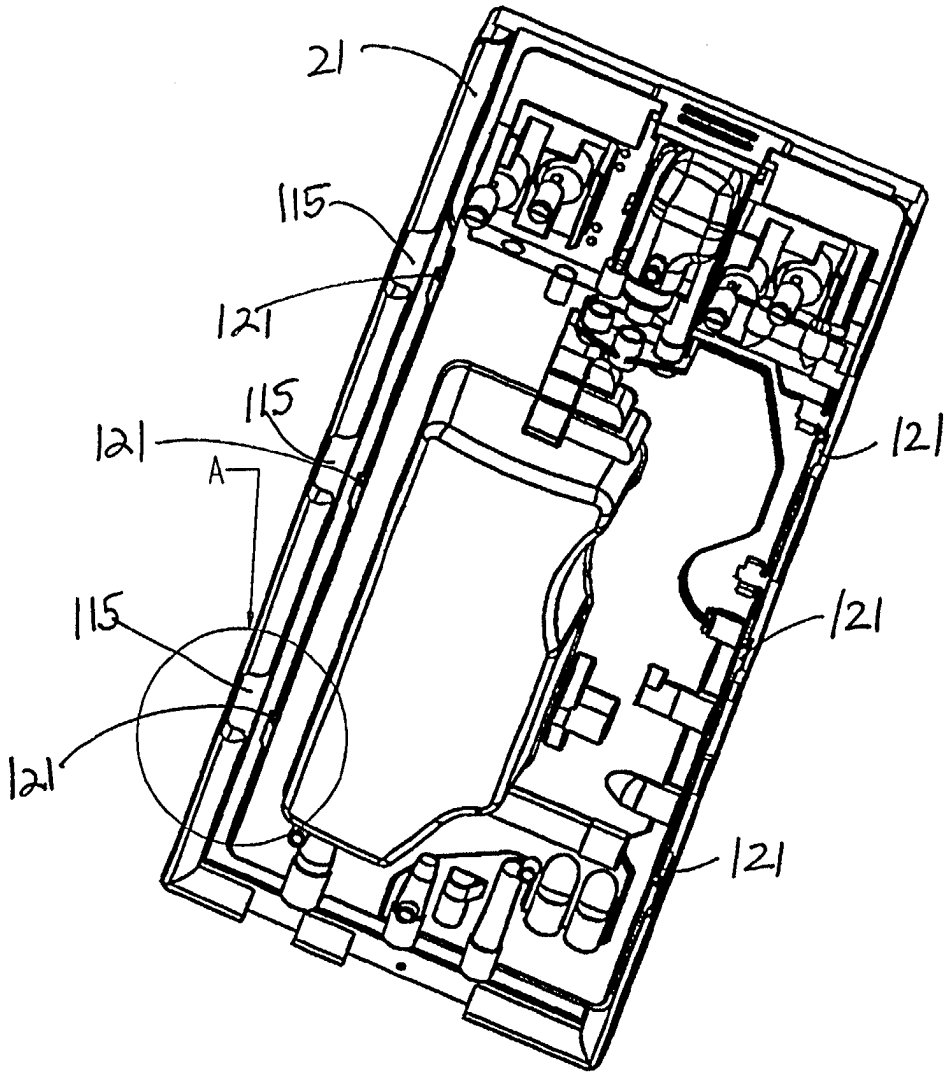


FIG. 10C

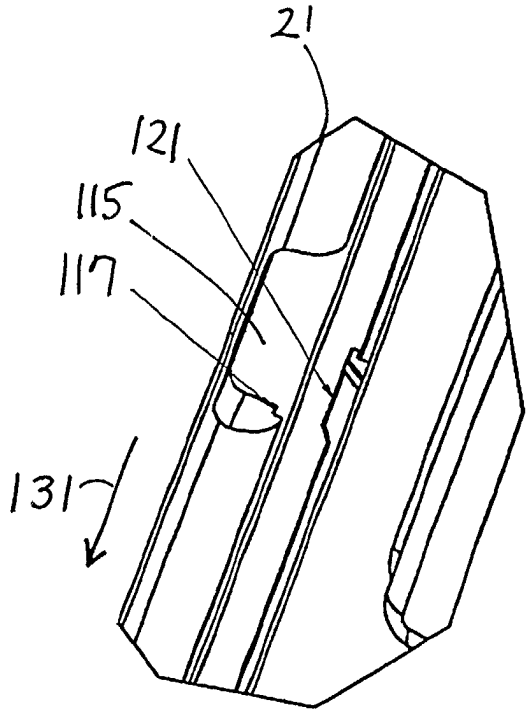
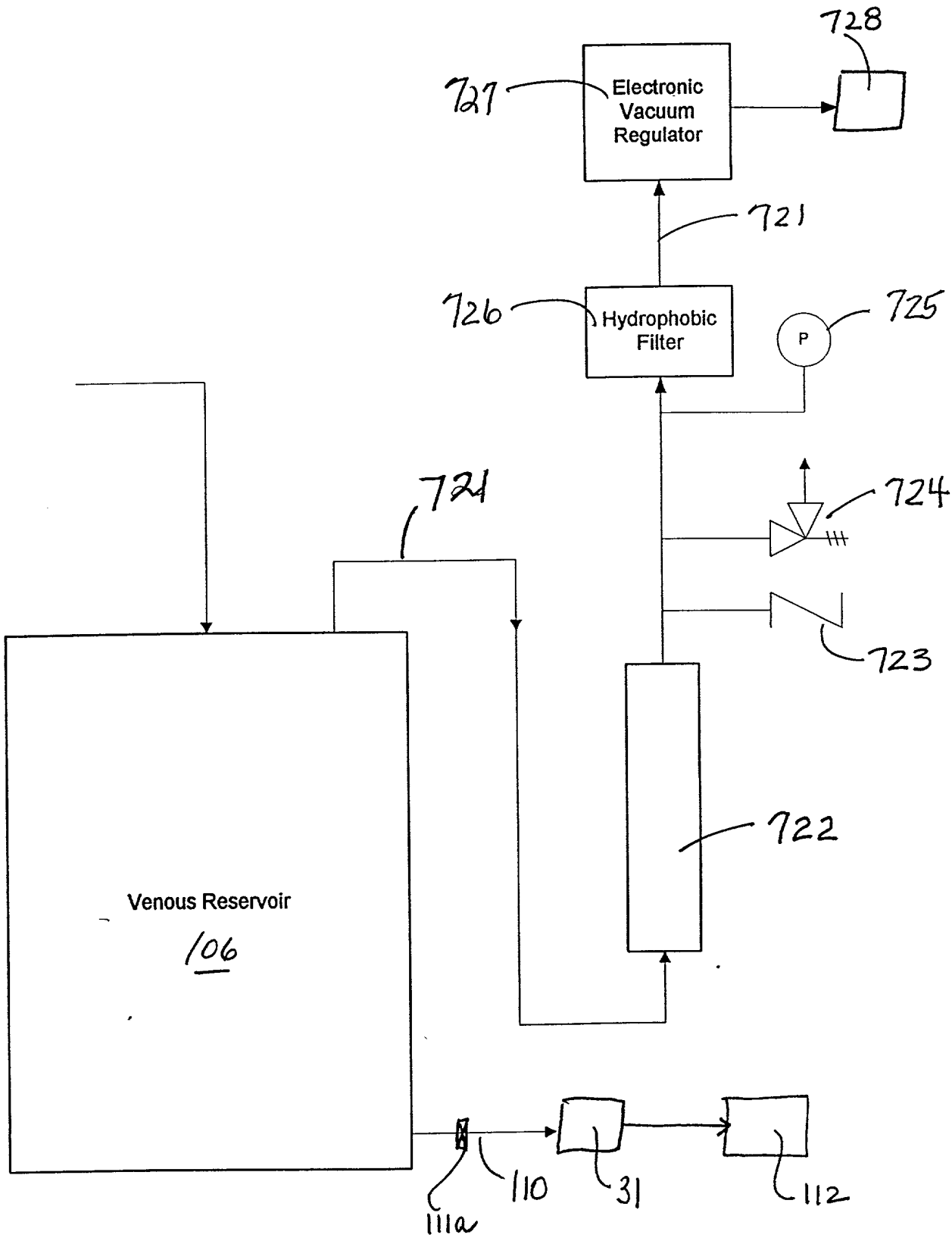


FIG. 10D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Electronic Vacuum Regulator
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Hydrophobic Filter
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P
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724
723
722
Venous Reservoir
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111a
110
31
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FIG. 11

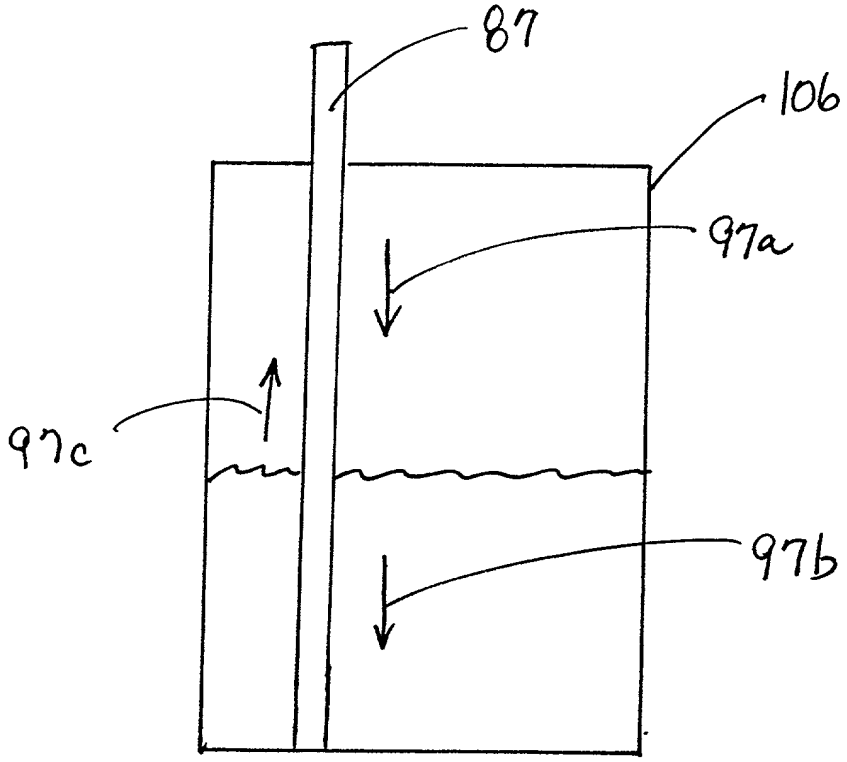
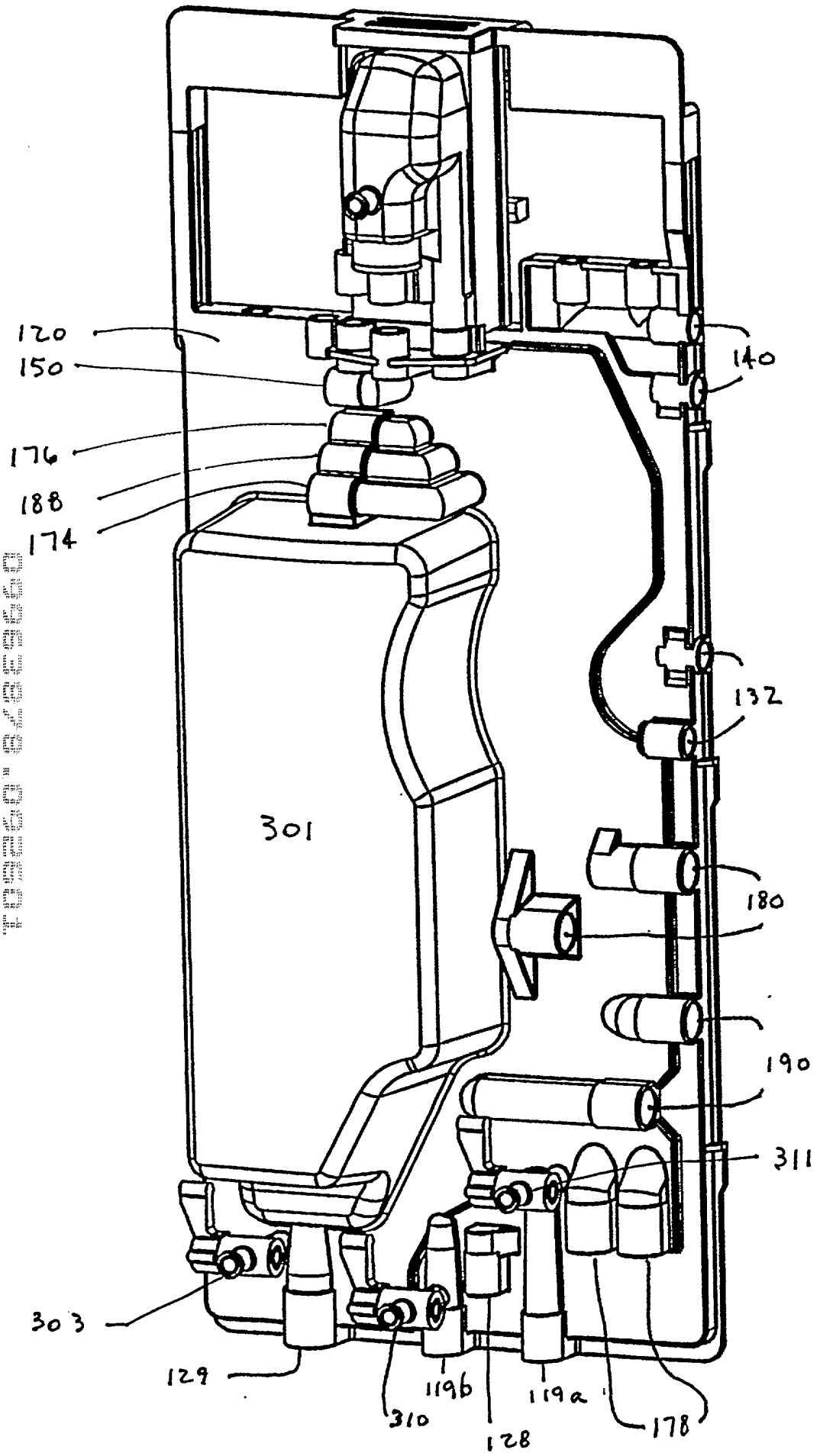


FIG. 12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129
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119a
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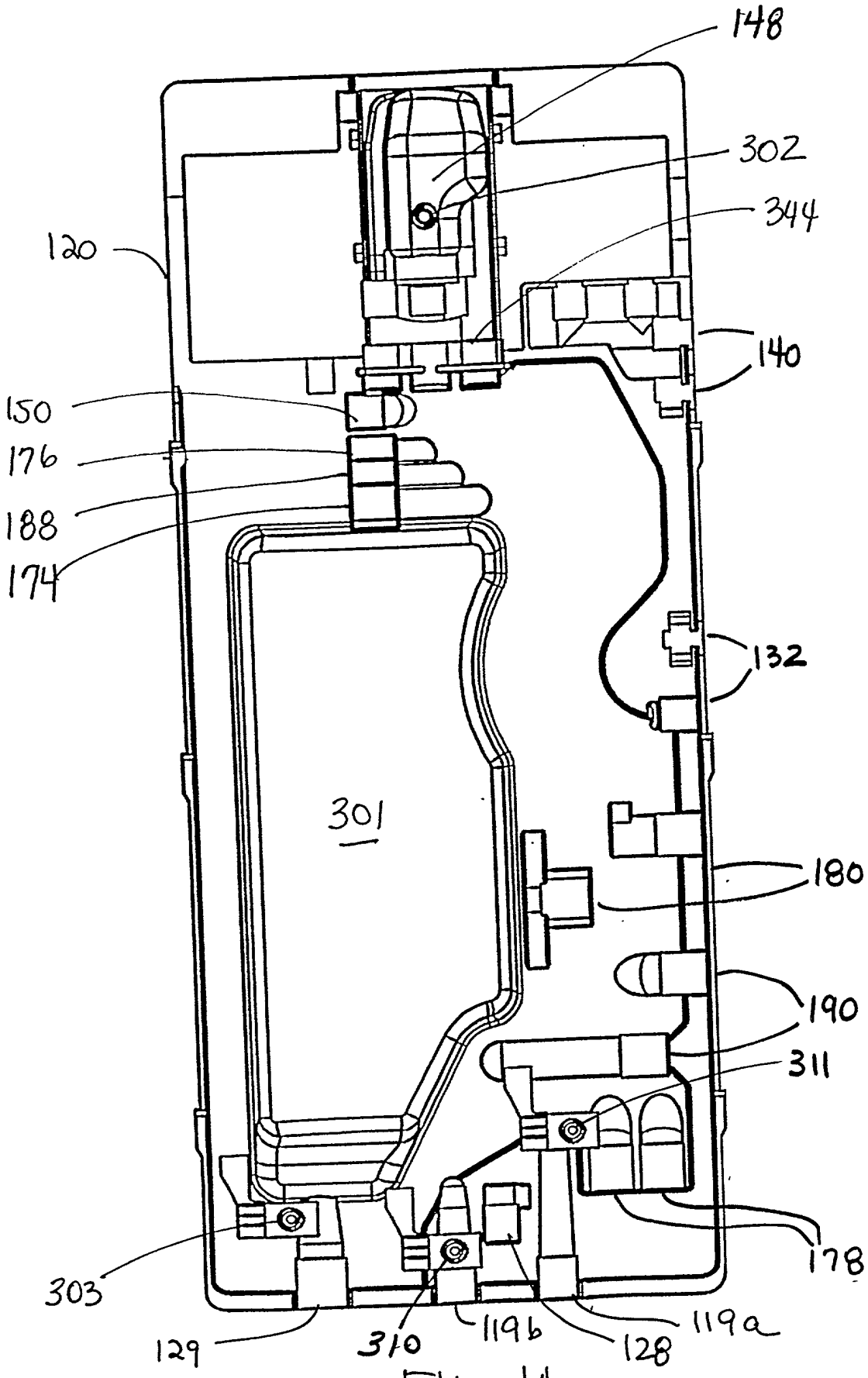
FIG. 13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303
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119b
128
119a

FIG. 14

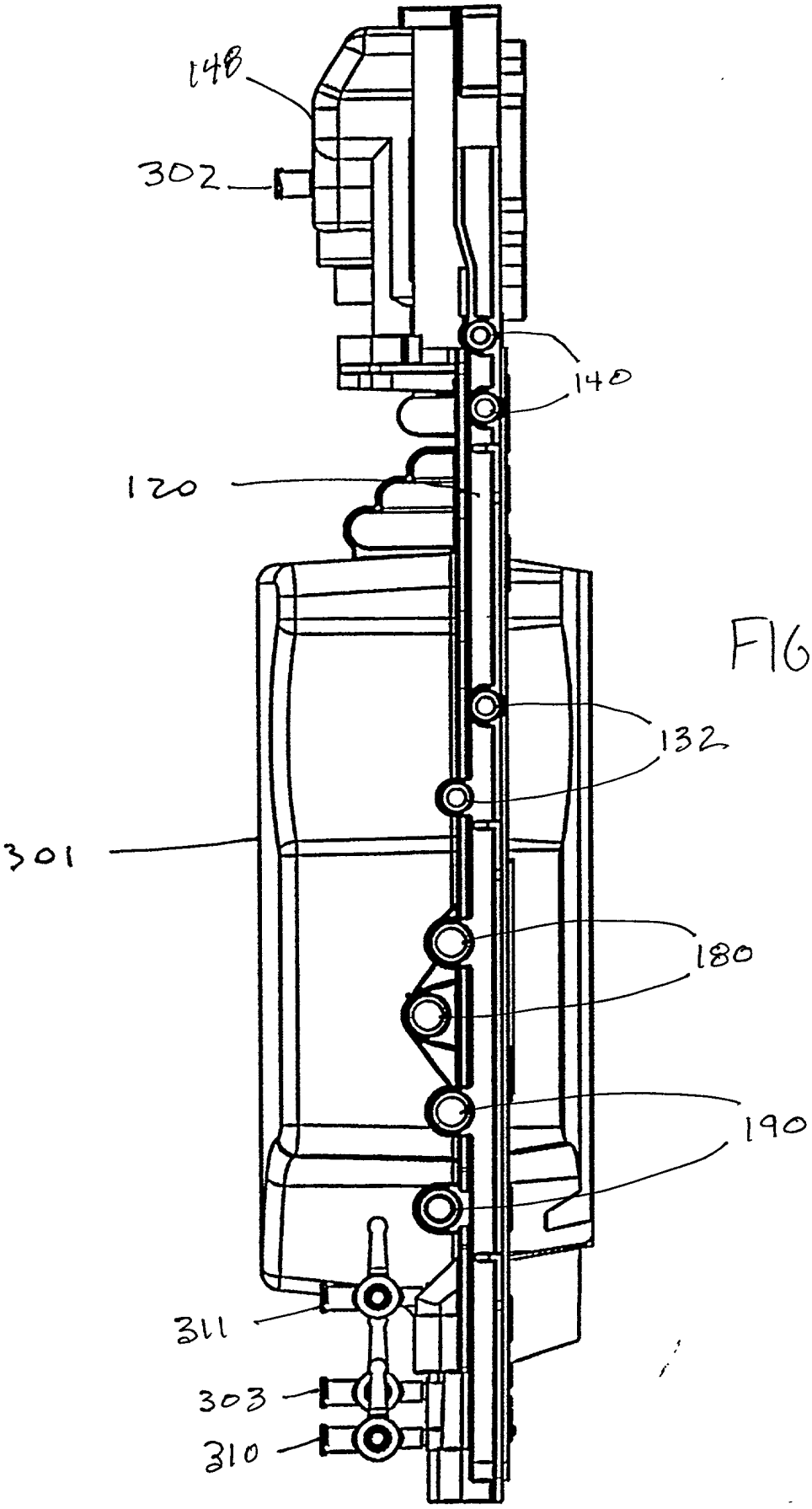


FIG. 15

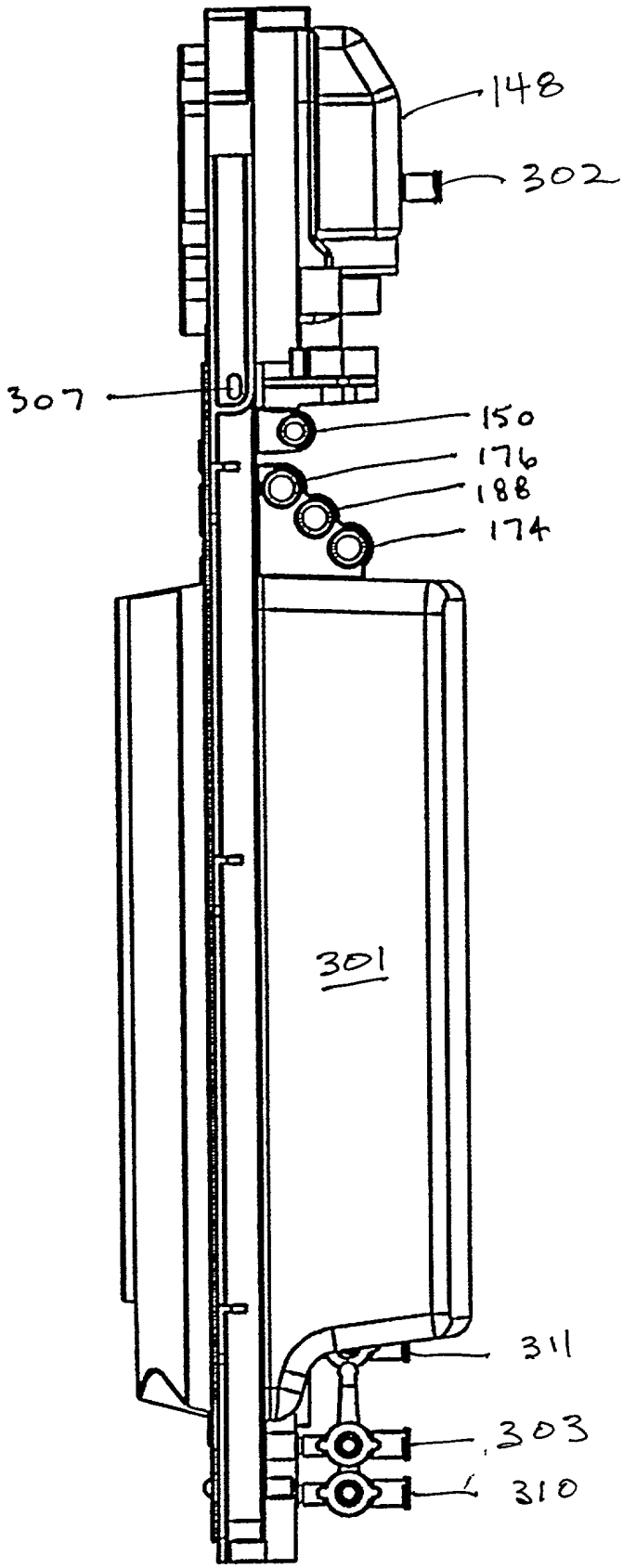


FIG. 16

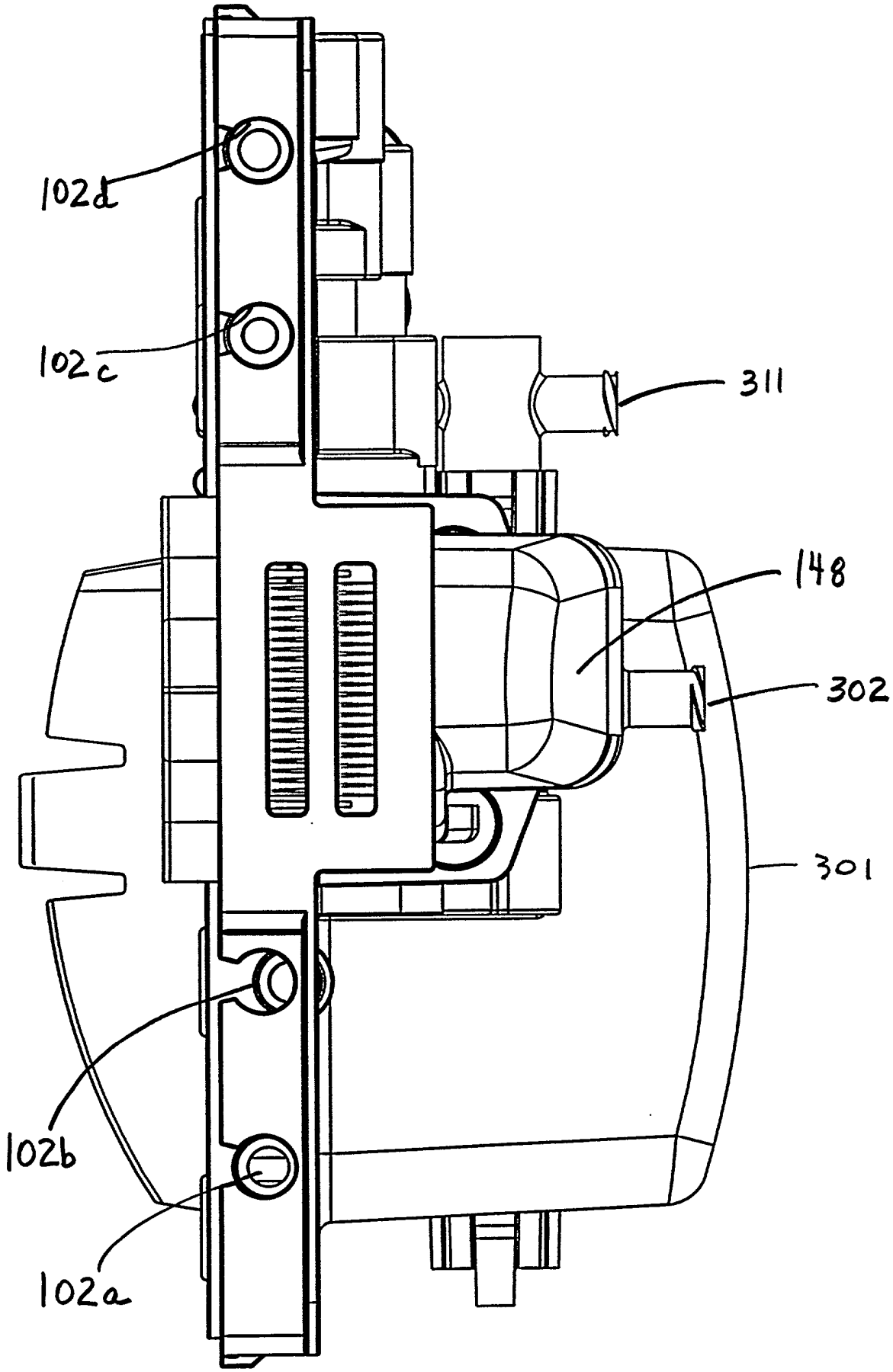


FIG. 17

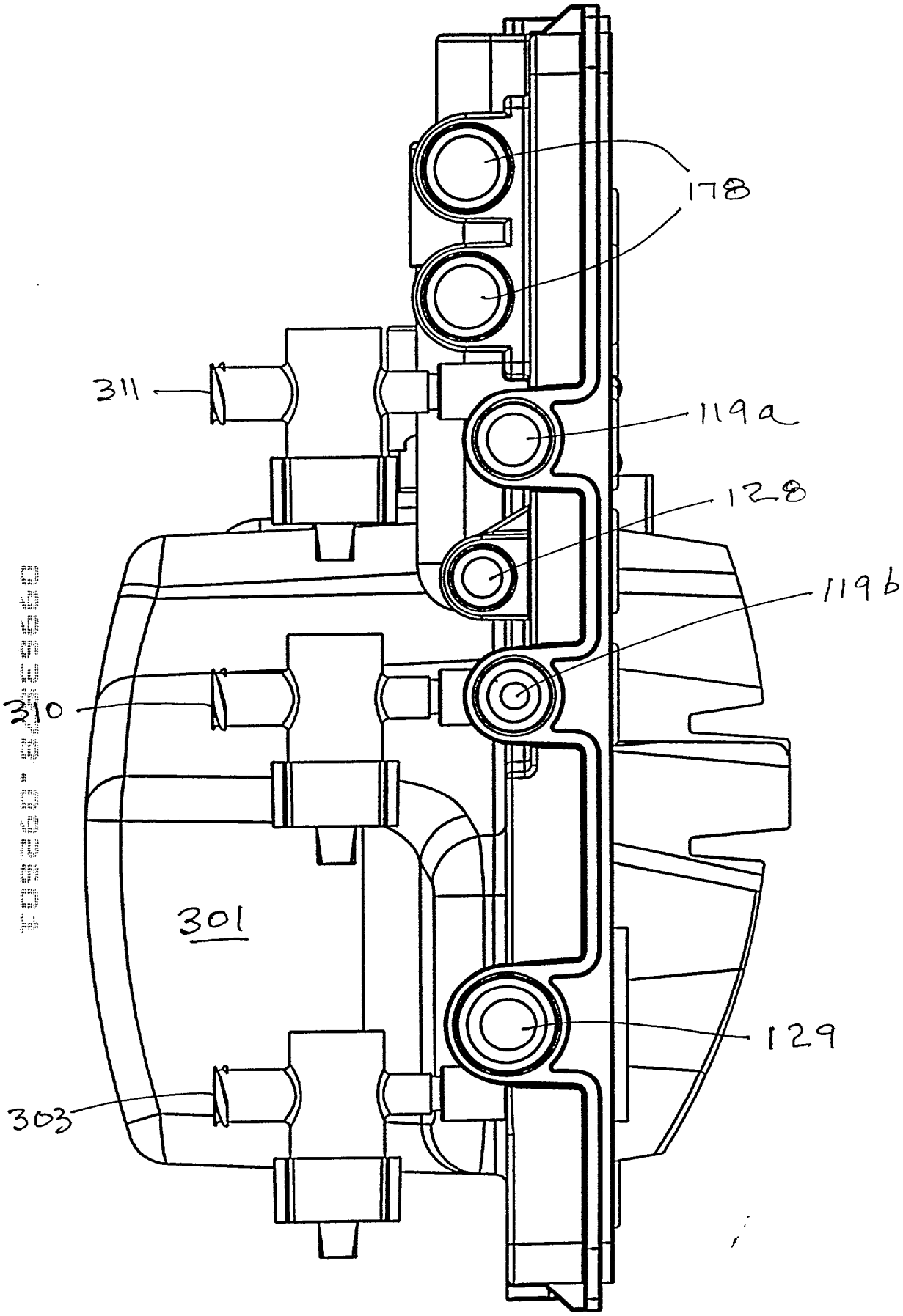
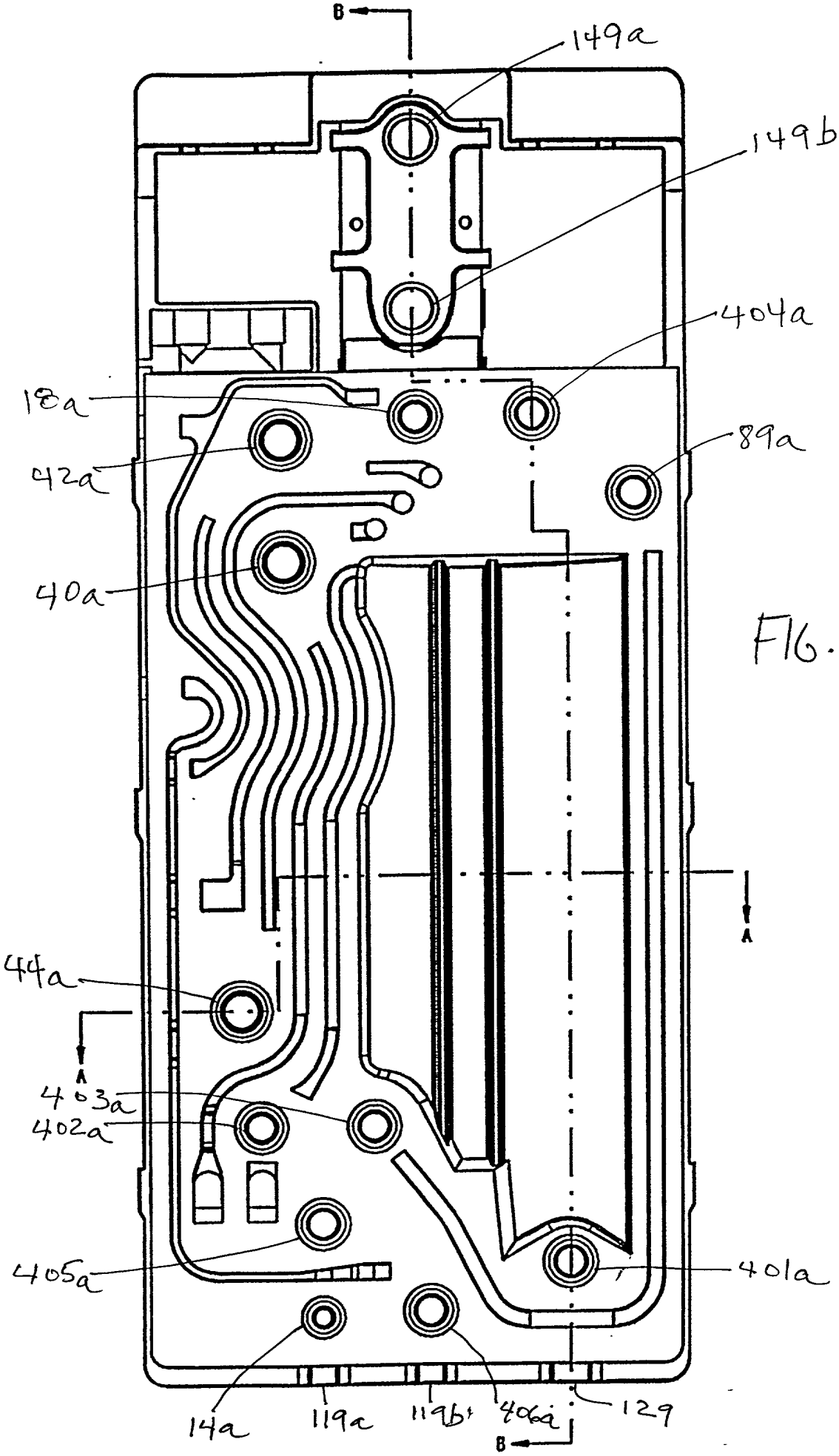


FIG. 18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18a
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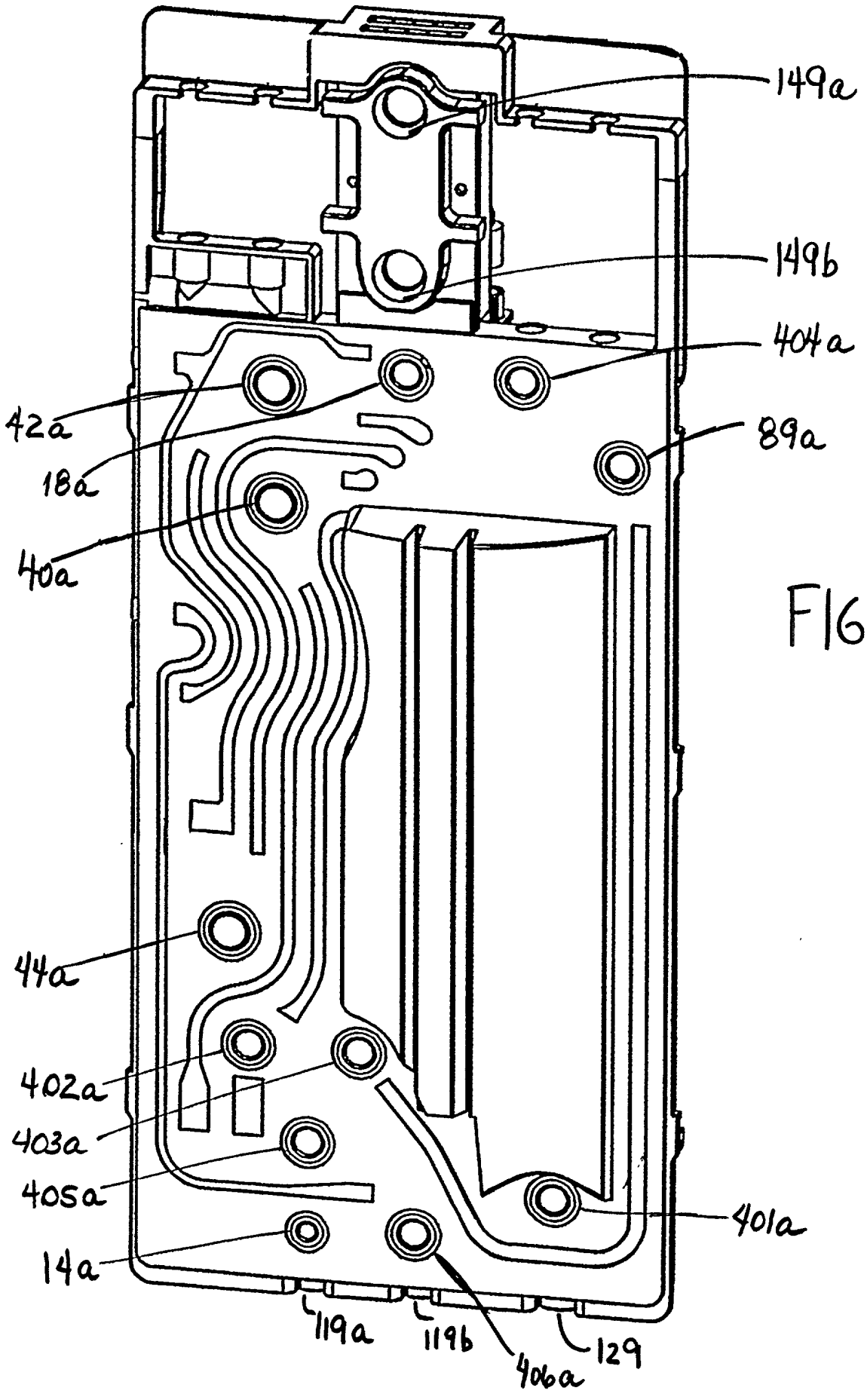
14a
119a
119b
406a
129
B

FIG. 19A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129
406a

FIG. 19B

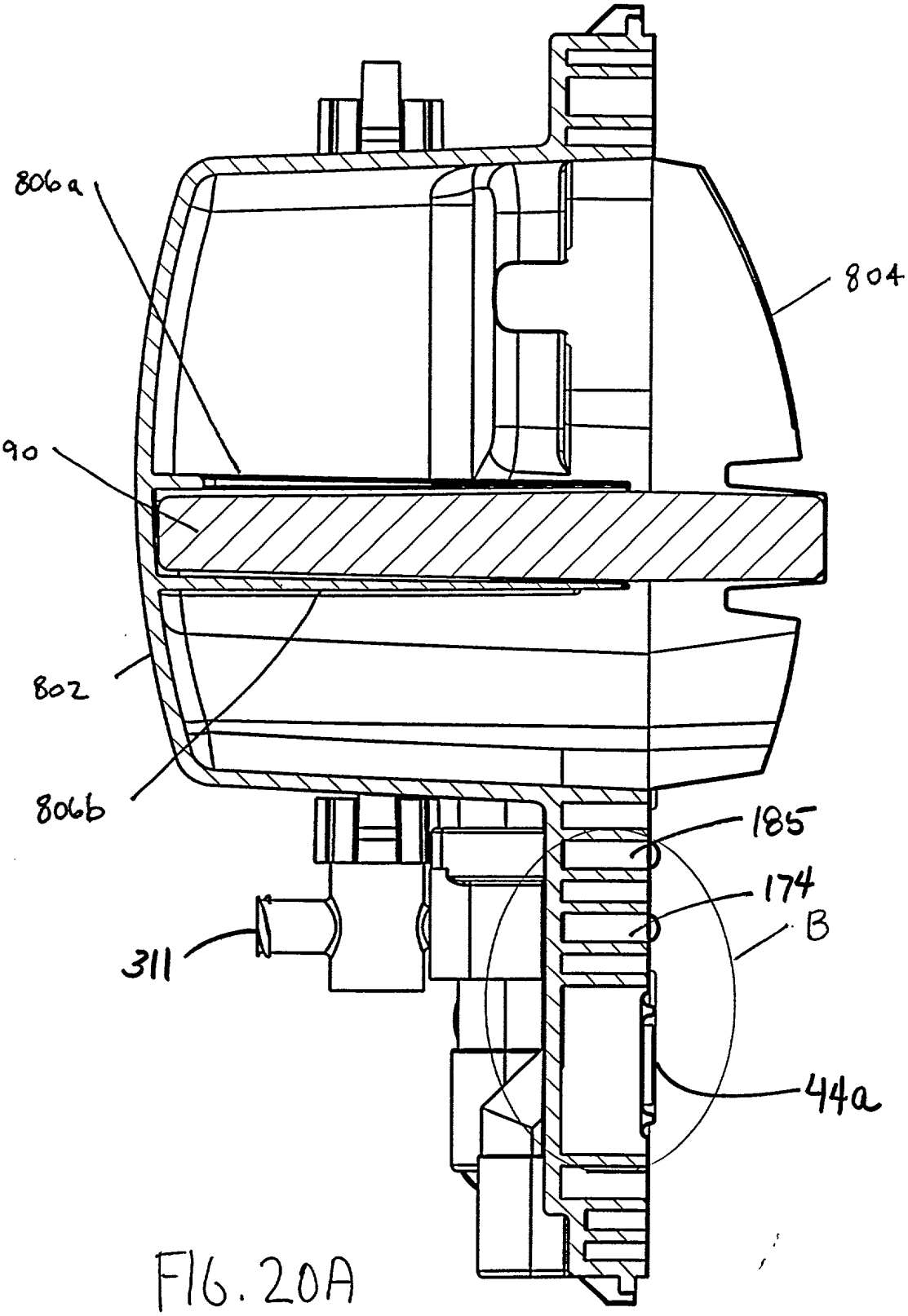


FIG. 20A

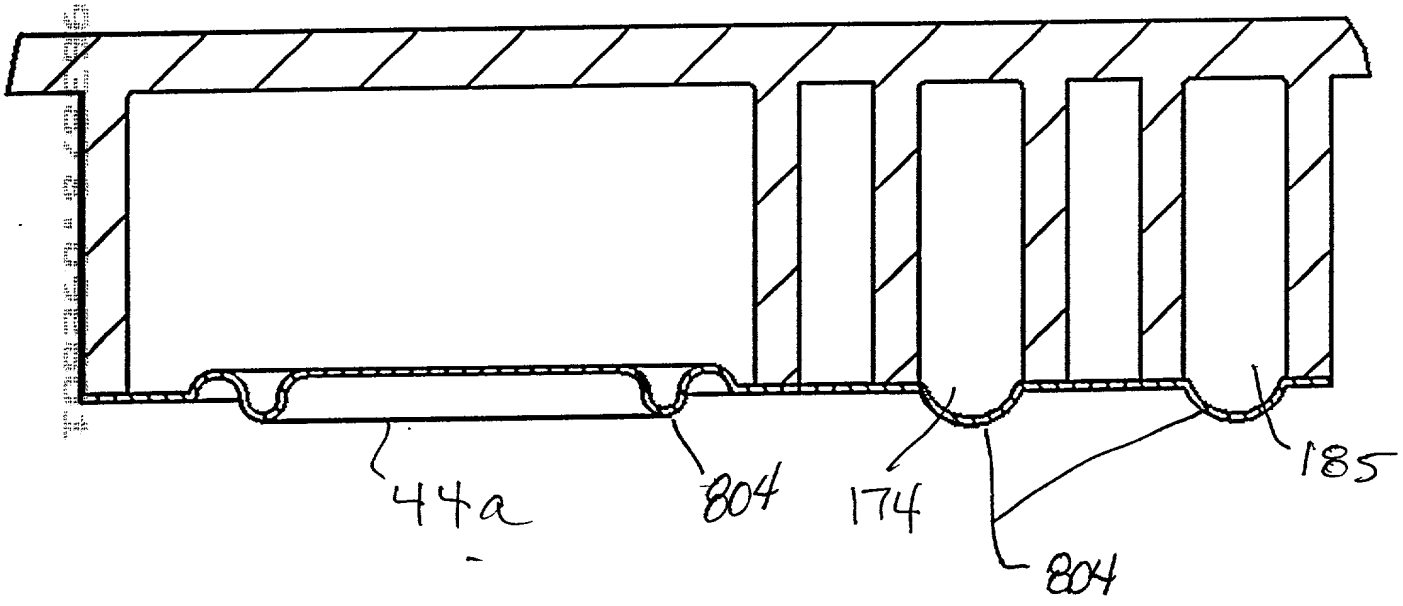


FIG. 20B

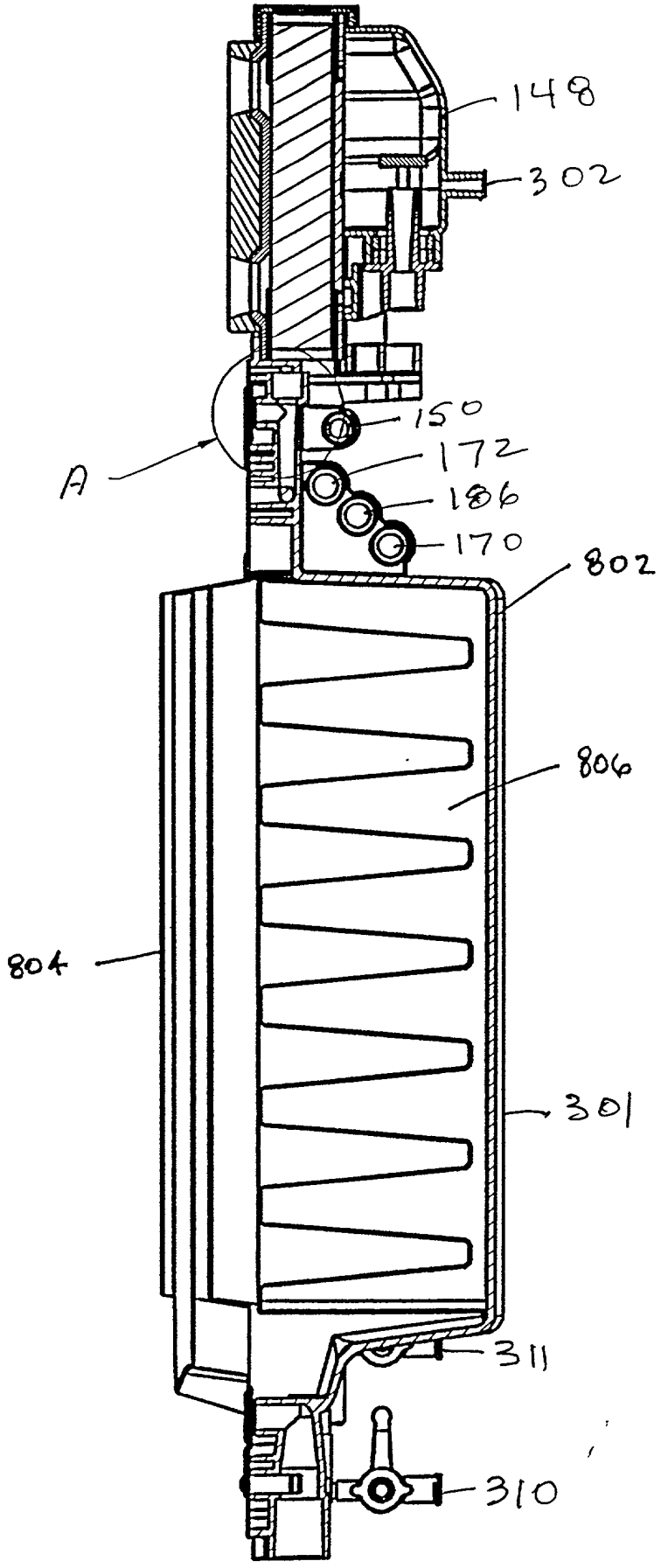
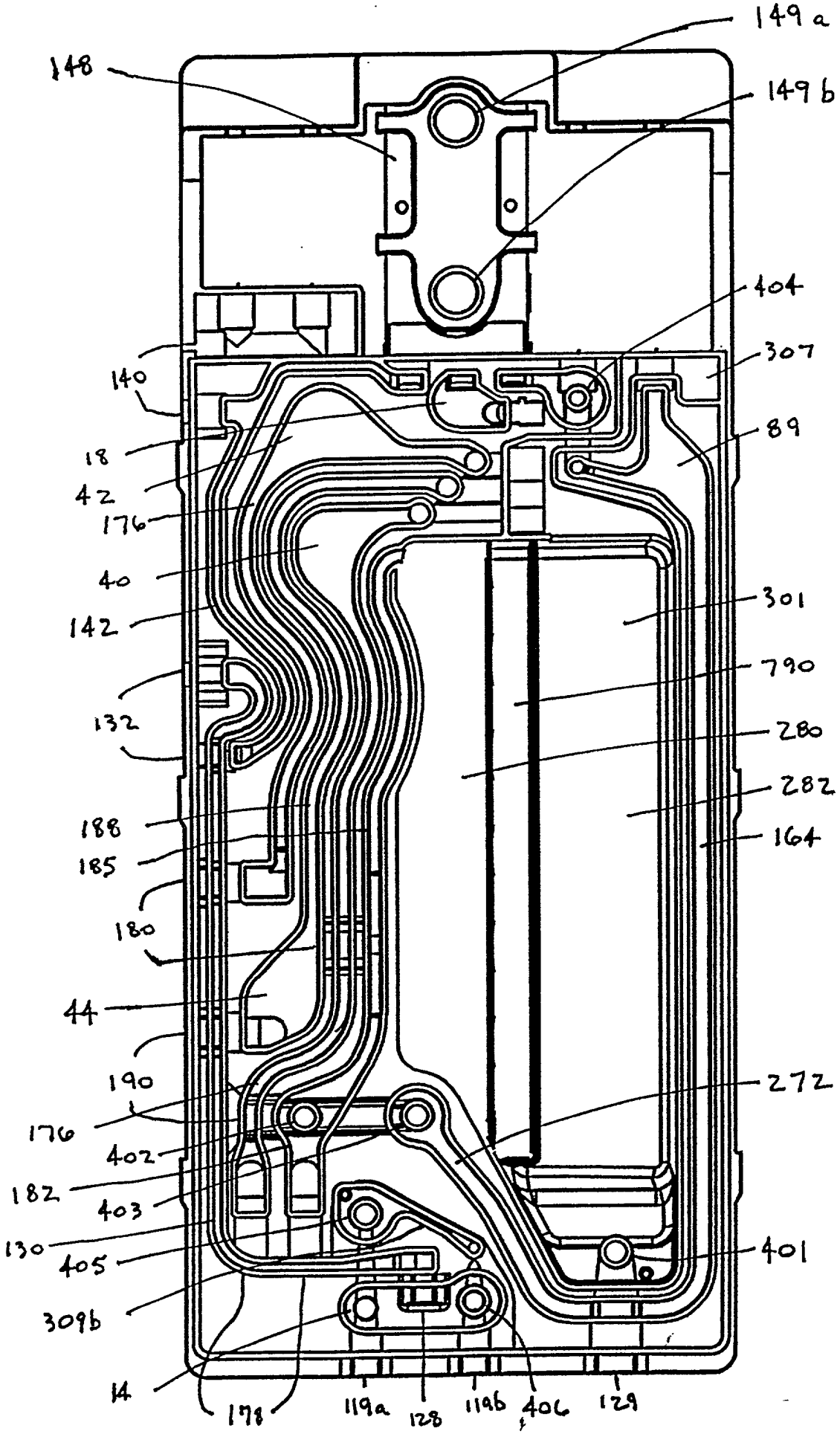


FIG. 21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178
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119b
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FIG. 22

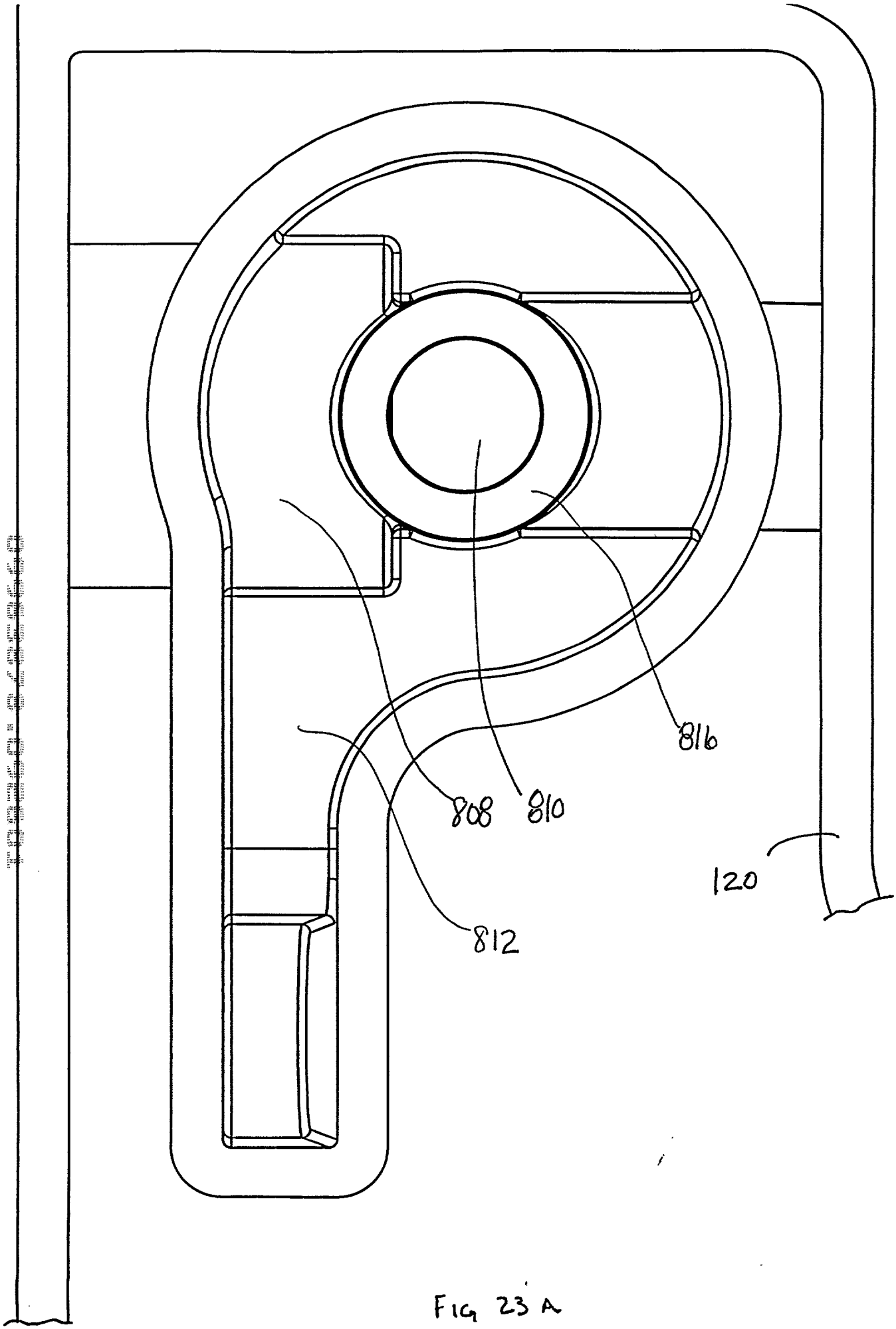


FIG 23A

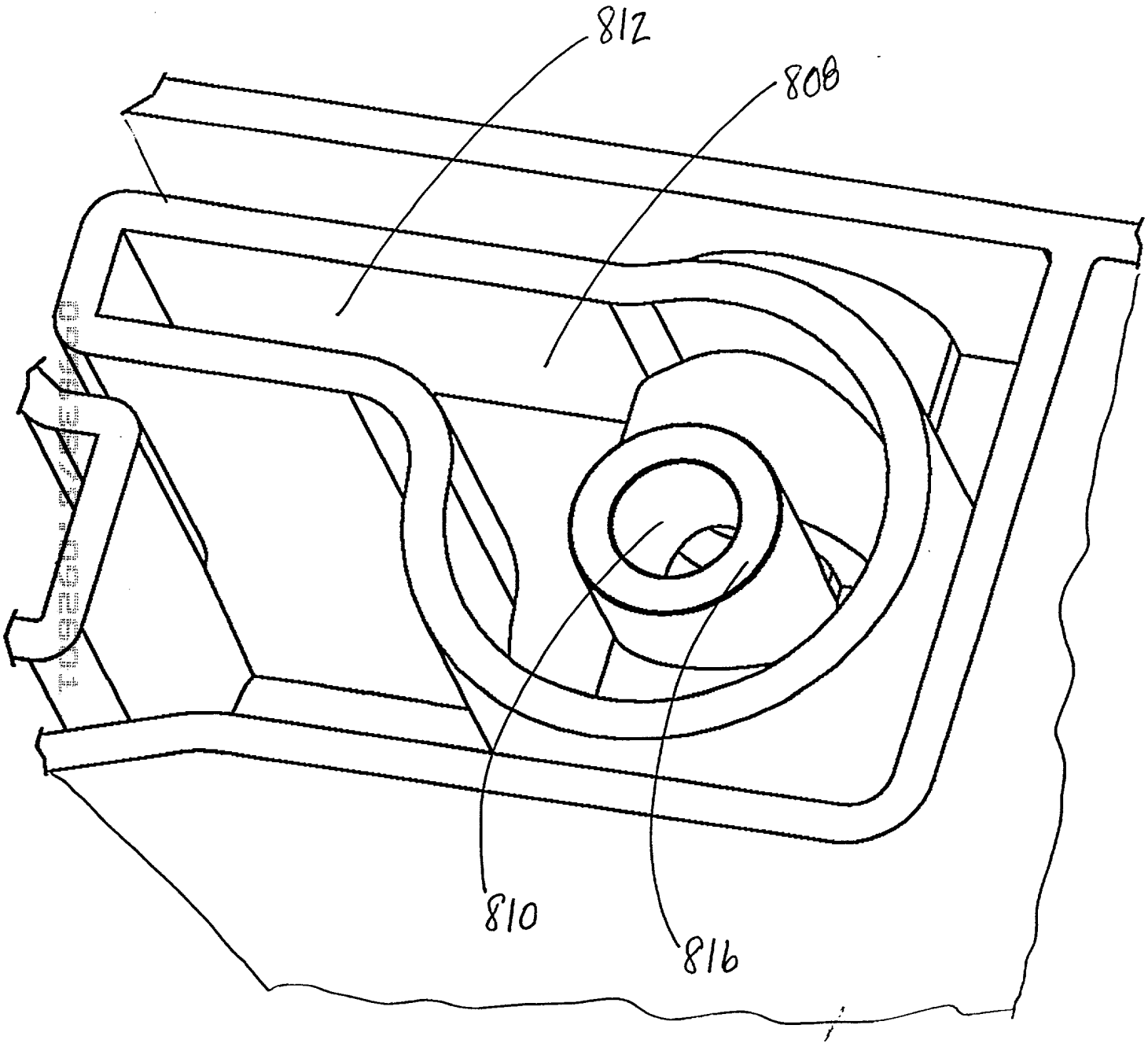


Fig. 23B

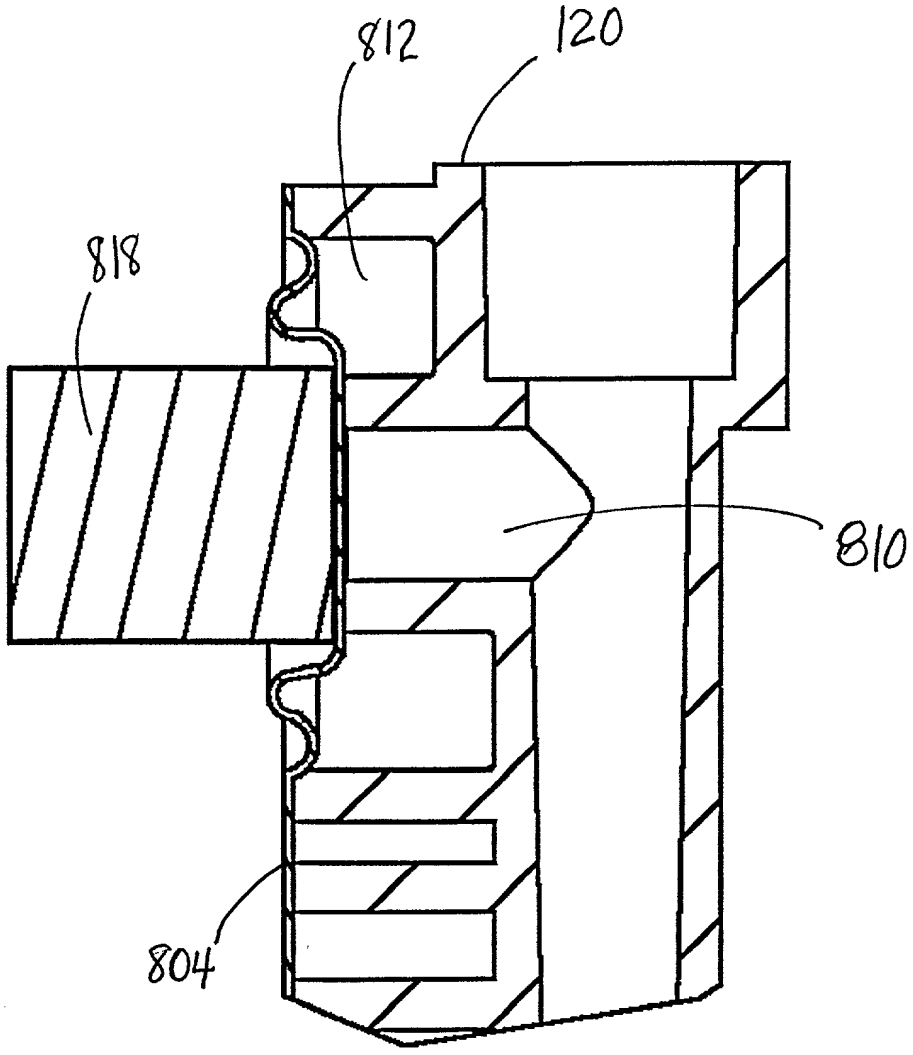


FIG 24A

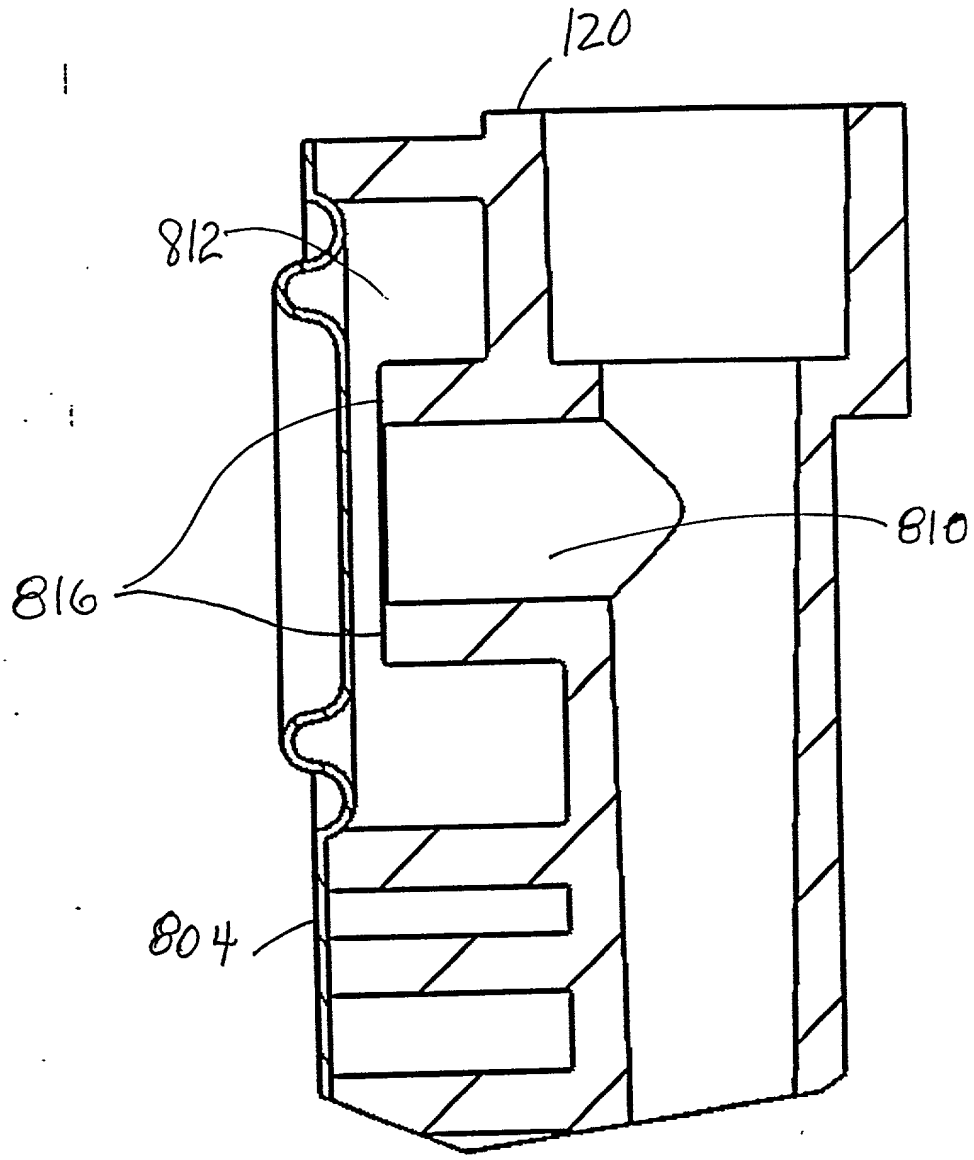


FIG 24B

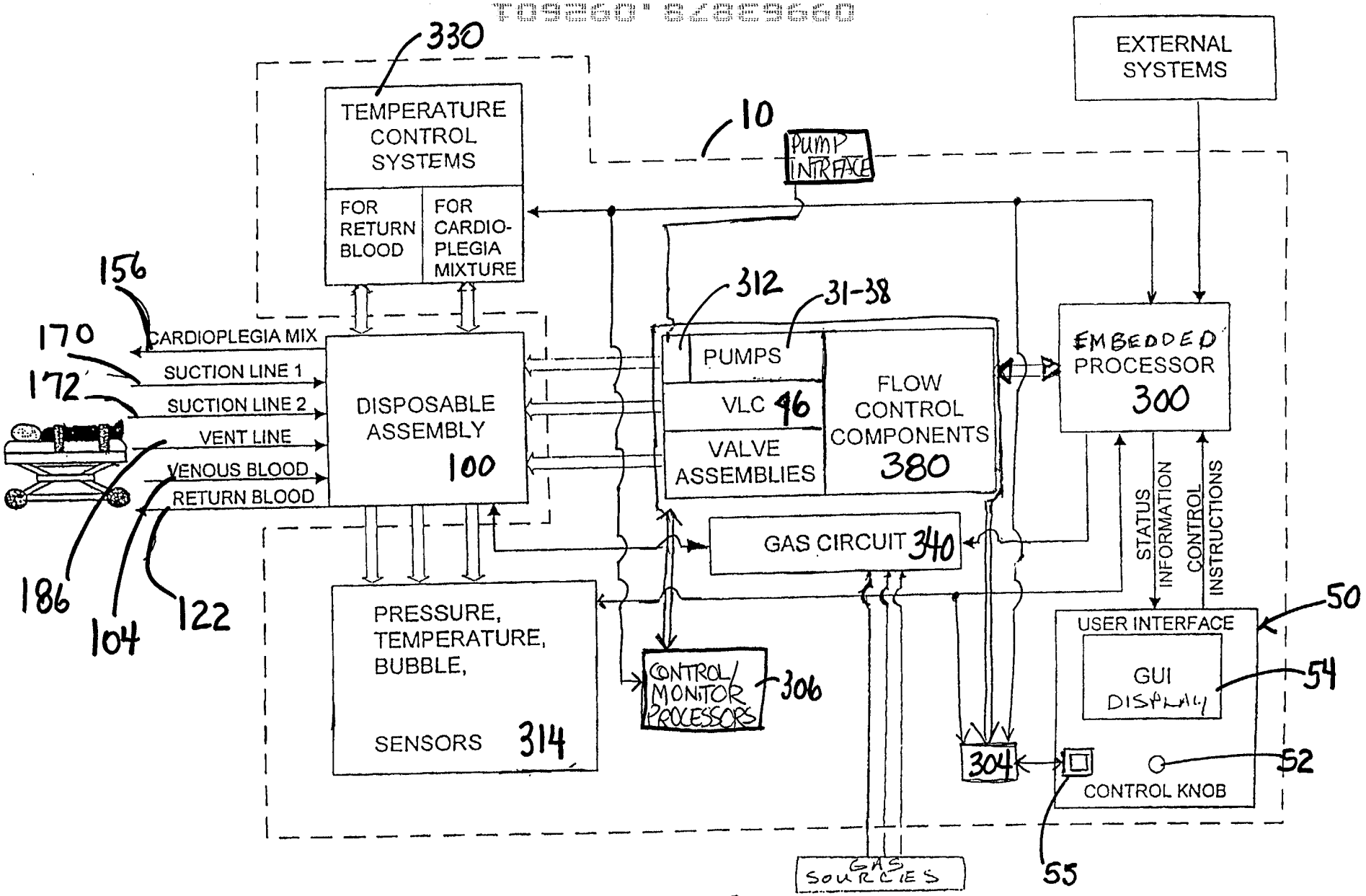

330
TEMPERATURE CONTROL SYSTEMS
FOR RETURN BLOOD
FOR CARDIO-PLEGIA MIXTURE
10
PUMP INTRFACE
EXTERNAL SYSTEMS
156
170
172
CARDIOPLEGIA MIX
SUCTION LINE 1
SUCTION LINE 2
VENT LINE
VENOUS BLOOD
RETURN BLOOD
DISPOSABLE ASSEMBLY 100
312
31-38
PUMPS
VLC 46
VALVE ASSEMBLIES
FLOW CONTROL COMPONENTS 380
EMBEDDED PROCESSOR 300
GAS CIRCUIT 340
STATUS INFORMATION
CONTROL INSTRUCTIONS
186
104
122
PRESSURE, TEMPERATURE, BUBBLE, SENSORS 314
CONTROL/ MONITOR PROCESSORS
306
50
USER INTERFACE
GUI DISPLAY
54
304
52
CONTROL KNOB
55
GAS SOURCES

FIG. 25

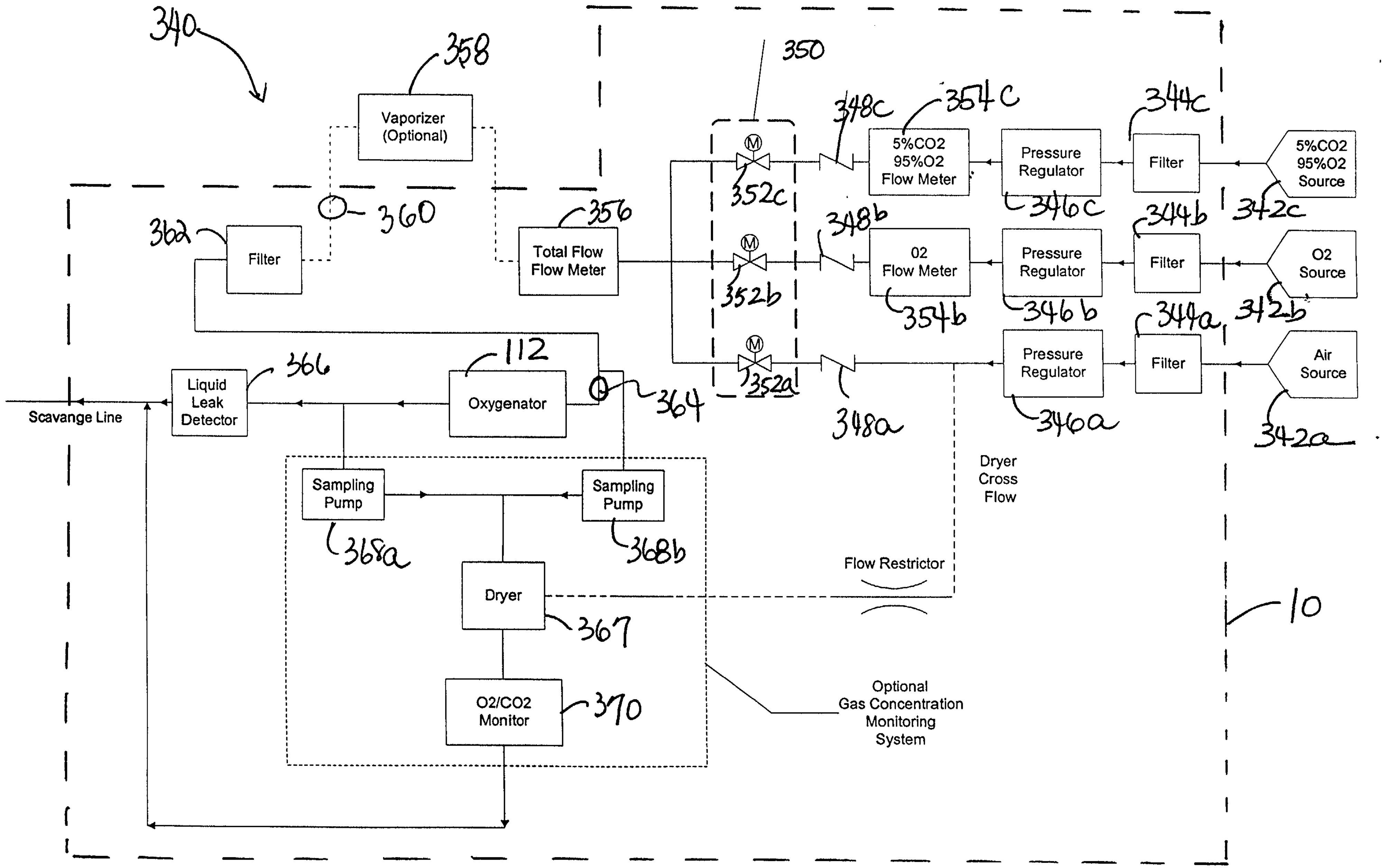

340
358
Vaporizer (Optional)
360
362
Filter
356
Total Flow Flow Meter
350
348c
354c
5%CO2 95%O2 Flow Meter
Pressure Regulator
346c
344c
Filter
5%CO2 95%O2 Source
342c
352c
348b
02 Flow Meter
354b
Pressure Regulator
346b
344b
Filter
O2 Source
342b
352b
344a
112
Oxygenator
364
366
Liquid Leak Detector
Scavange Line
352a
348a
Pressure Regulator
346a
Filter
Air Source
342a
Sampling Pump
368a
Sampling Pump
368b
Dryer
367
O2/CO2 Monitor
370
Dryer Cross Flow
Flow Restrictor
Optional Gas Concentration Monitoring System
10

FIG. 26

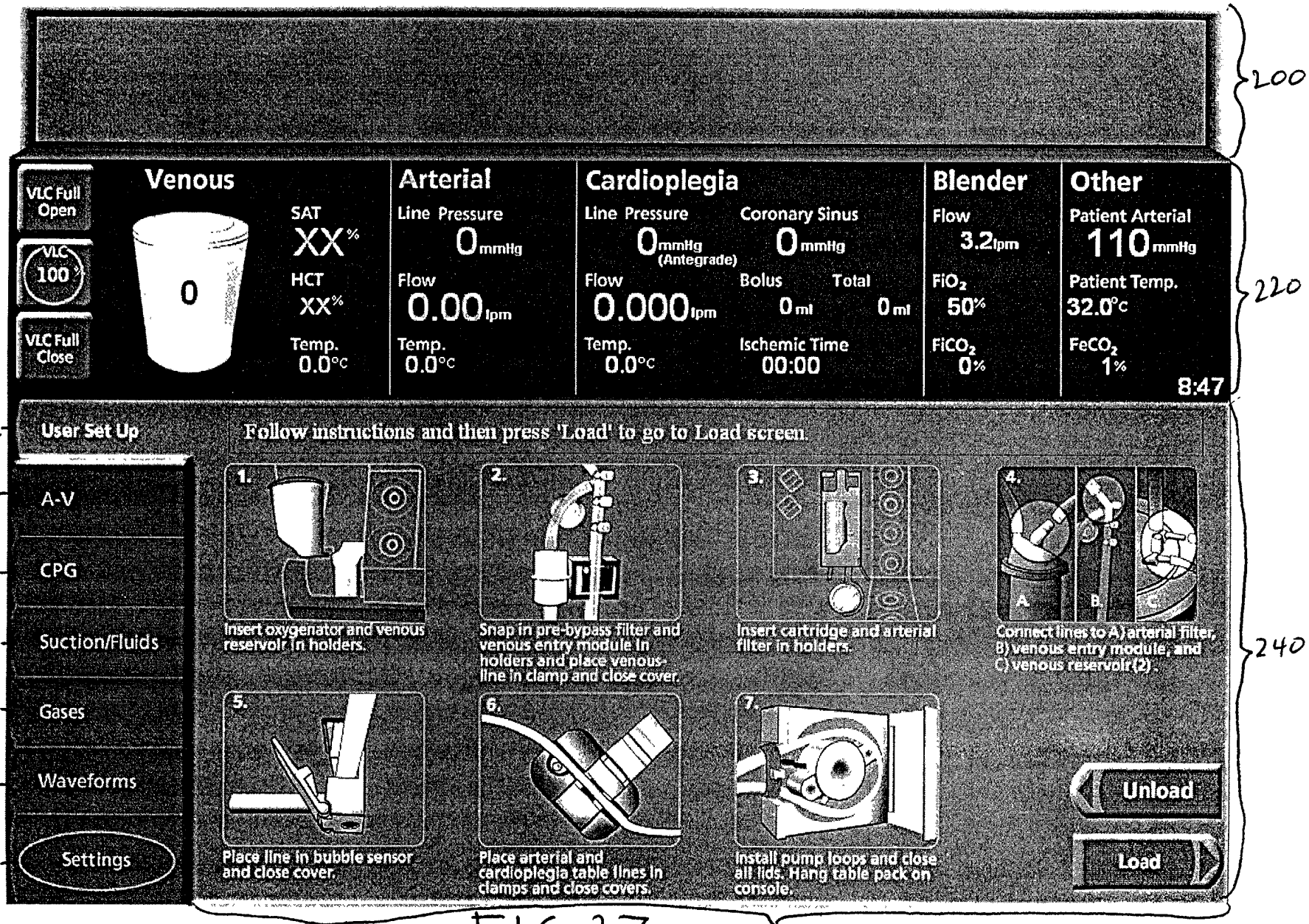

200
VLC Full Open
VLC 100 %
VLC Full Close
Venous
0
SAT XX%
HCT XX%
Temp. 0.0°C
Arterial
Line Pressure 0 mmHg
Flow 0.00 lpm
Temp. 0.0°C
Cardioplegia
Line Pressure 0 mmHg (Antegrade)
Coronary Sinus 0 mmHg
Flow 0.000 lpm
Bolus 0 ml
Total 0 ml
Temp. 0.0°C
Ischemic Time 00:00
Blender
Flow 3.2 lpm
FiO2 50%
FiCO2 0%
Other
Patient Arterial 110 mmHg
Patient Temp. 32.0°C
FeCO2 1%
8:47
220
242 User Set Up
Follow instructions and then press 'Load' to go to Load screen.
244 A-V
246 CPG
248 Suction/Fluids
250 Gases
252 Waveforms
254 Settings
1. Insert oxygenator and venous reservoir in holders.
2. Snap in pre-bypass filter and venous entry module in holders and place venous line in clamp and close cover.
3. Insert cartridge and arterial filter in holders.
4. Connect lines to A) arterial filter, B) venous entry module, and C) venous reservoir (2).
5. Place line in bubble sensor and close cover.
6. Place arterial and cardioplegia table lines in clamps and close covers.
7. Install pump loops and close all lids. Hang table pack on console.
Unload
Load
240
243

FIG. 27

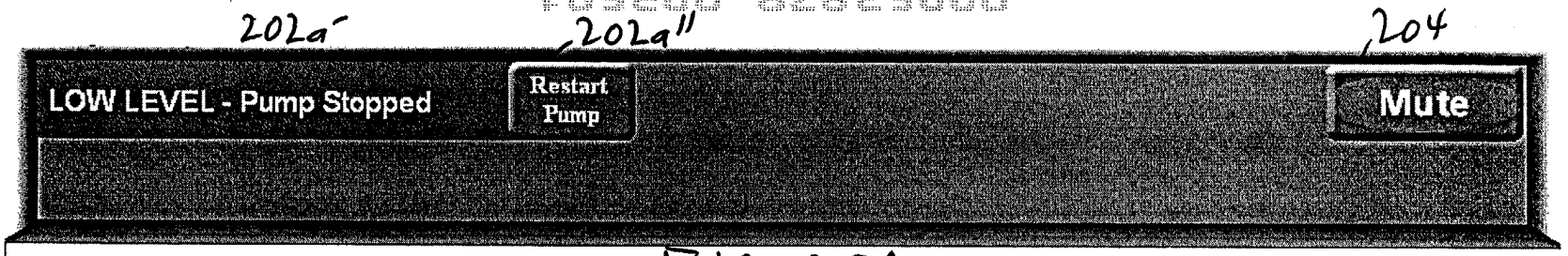


FIG. 28A

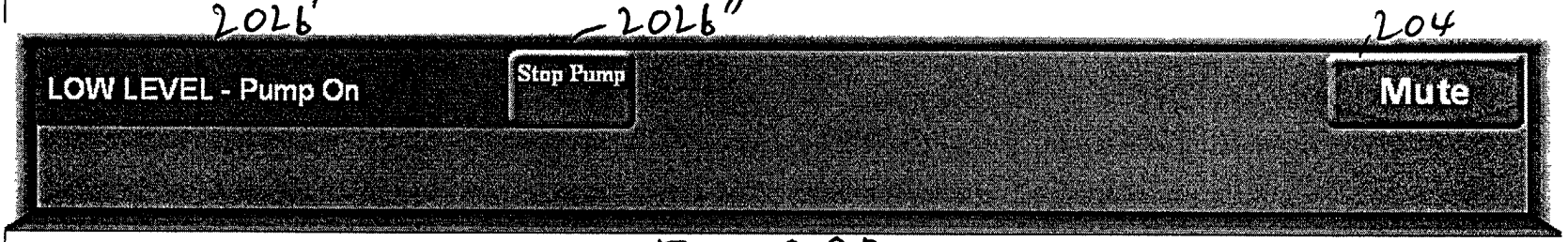


FIG. 28B

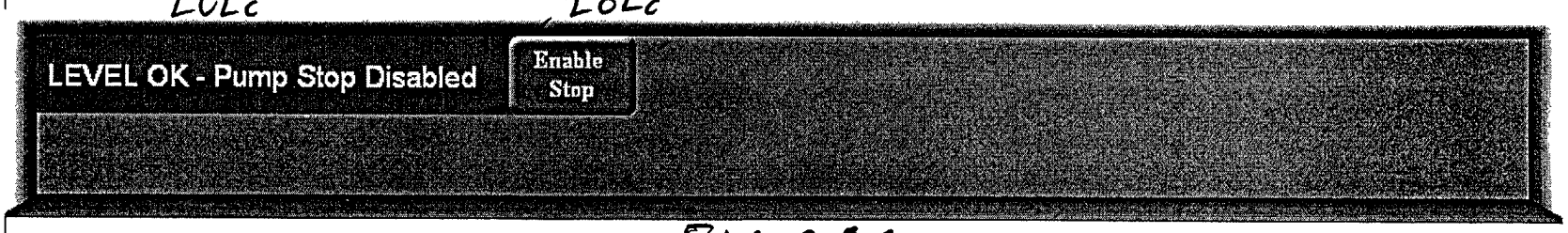


FIG. 28C

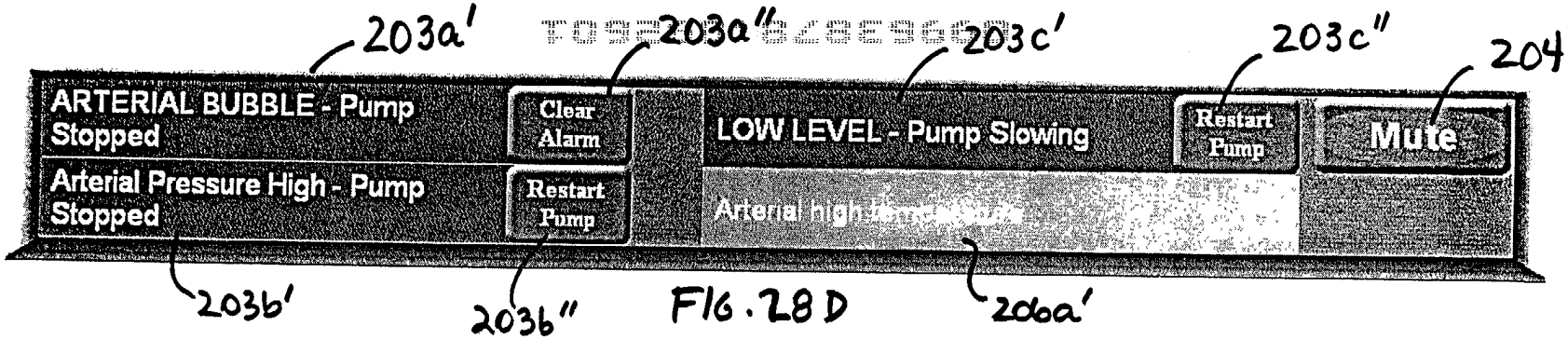


FIG. 28D

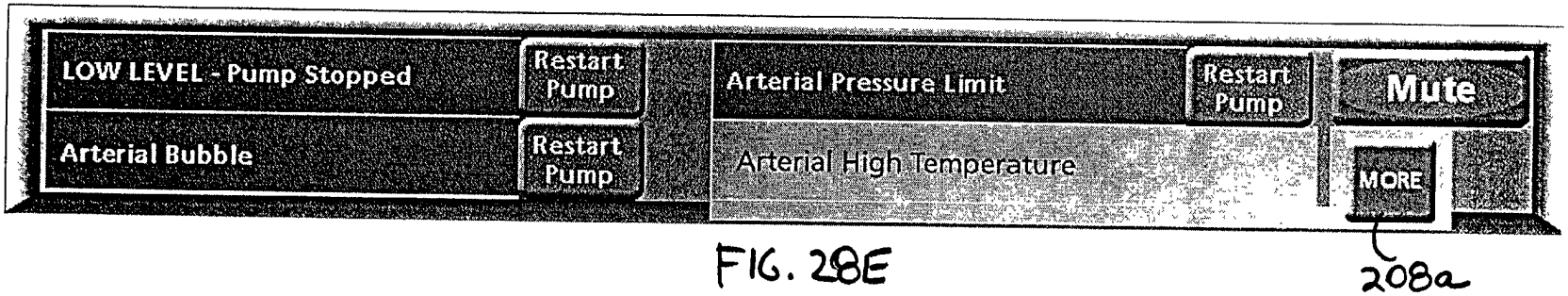


FIG. 28E

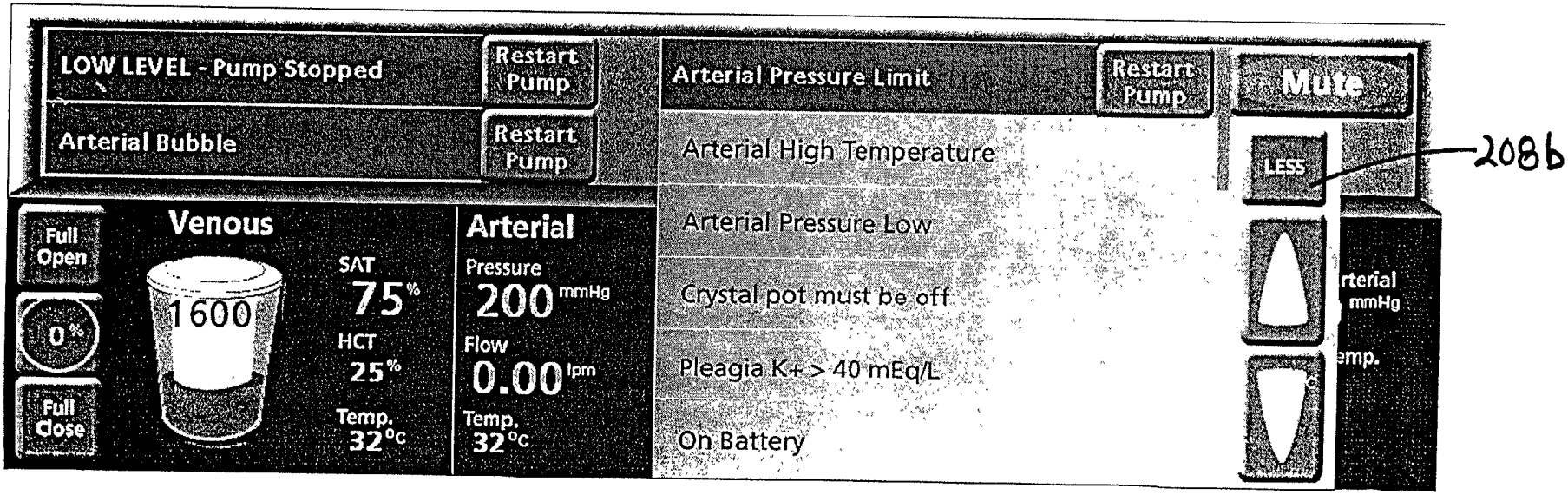


FIG. 28F

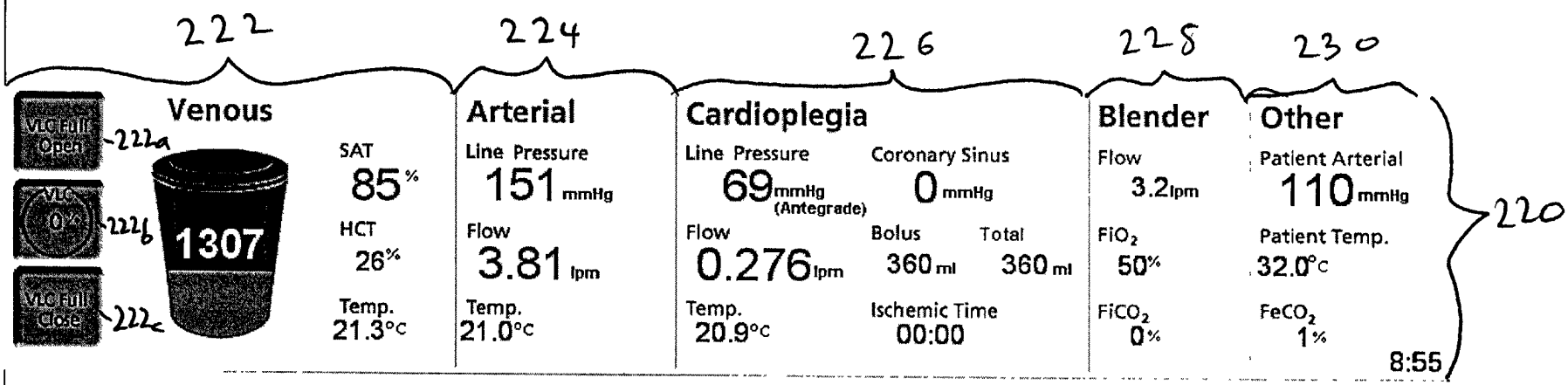

222
224
226
228
230
220
VLC Full Open
222a
VLC 0%
222b
VLC Full Close
222c
1307
Venous
SAT
85%
HCT
26%
Temp.
21.3°C
Arterial
Line Pressure
151 mmHg
Flow
3.81 lpm
Temp.
21.0°C
Cardioplegia
Line Pressure
69 mmHg (Antegrade)
Coronary Sinus
0 mmHg
Flow
0.276 lpm
Bolus
360 ml
Total
360 ml
Temp.
20.9°C
Ischemic Time
00:00
Blender
Flow
3.2 lpm
FiO2
50%
FiCO2
0%
Other
Patient Arterial
110 mmHg
Patient Temp.
32.0°C
FeCO2
1%
8:55

FIG. 29

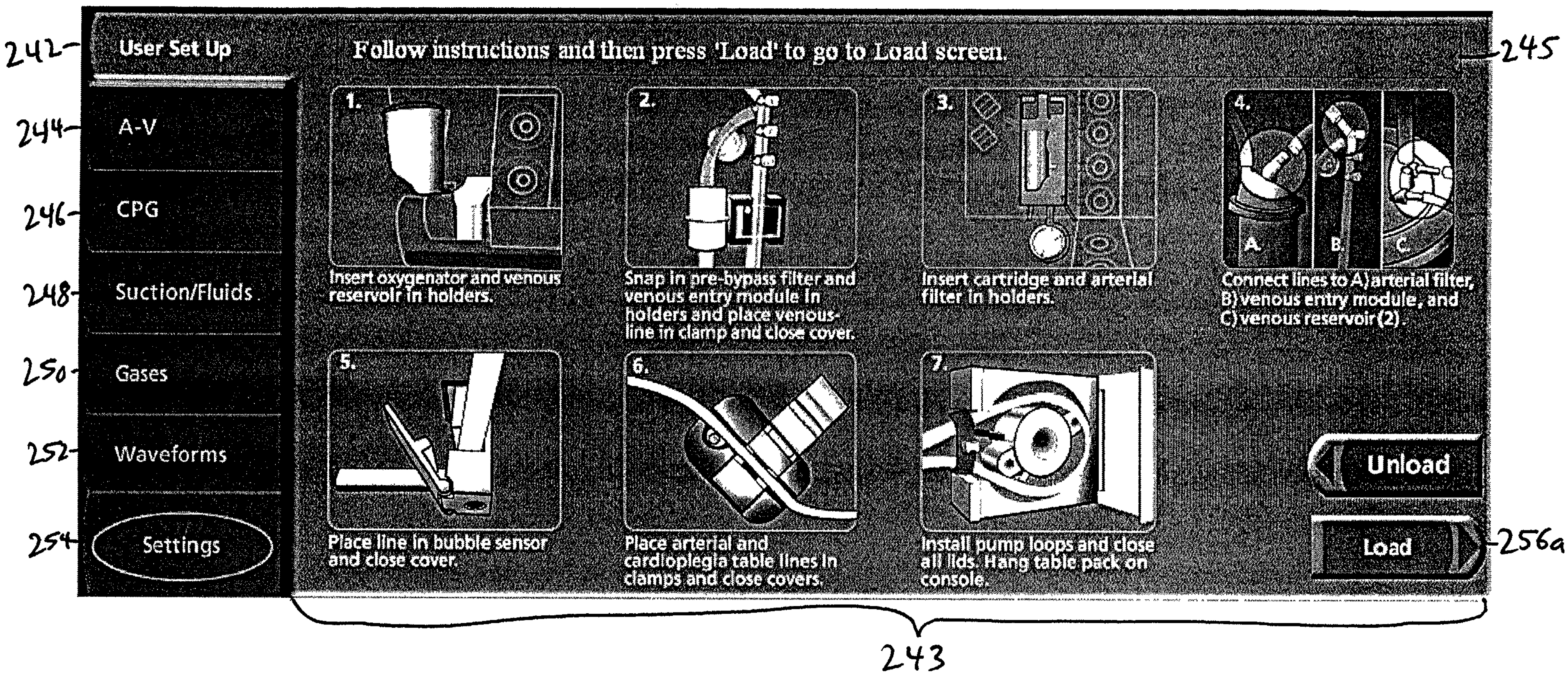

242
User Set Up
Follow instructions and then press 'Load' to go to Load screen.
245
244
A-V
246
CPG
248
Suction/Fluids
250
Gases
252
Waveforms
254
Settings
1.
Insert oxygenator and venous reservoir in holders.
2.
Snap in pre-bypass filter and venous entry module in holders and place venous-line in clamp and close cover.
3.
Insert cartridge and arterial filter in holders.
4.
A
B
C
Connect lines to A) arterial filter, B) venous entry module, and C) venous reservoir (2).
5.
Place line in bubble sensor and close cover.
6.
Place arterial and cardioplegia table lines in clamps and close covers.
7.
Install pump loops and close all lids. Hang table pack on console.
Unload
Load
256a
243

FIG. 30A

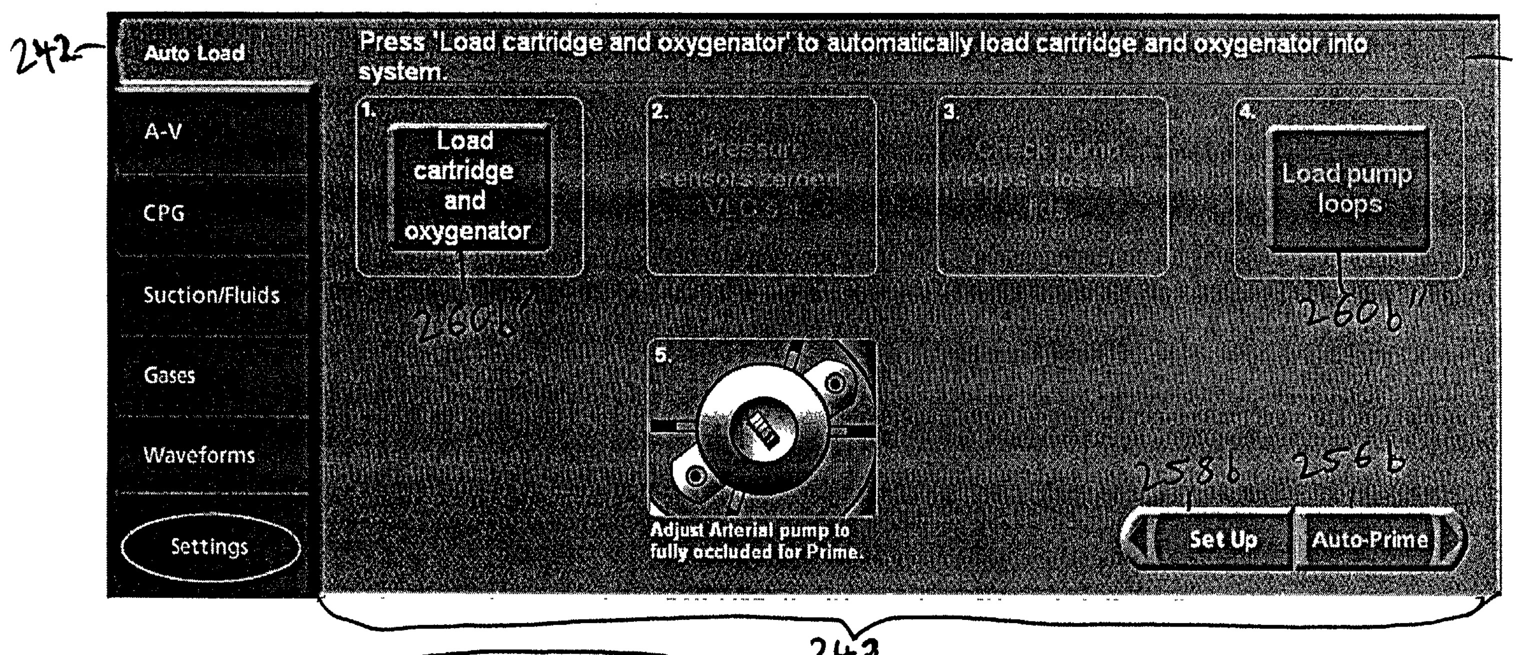


FIG. 30B

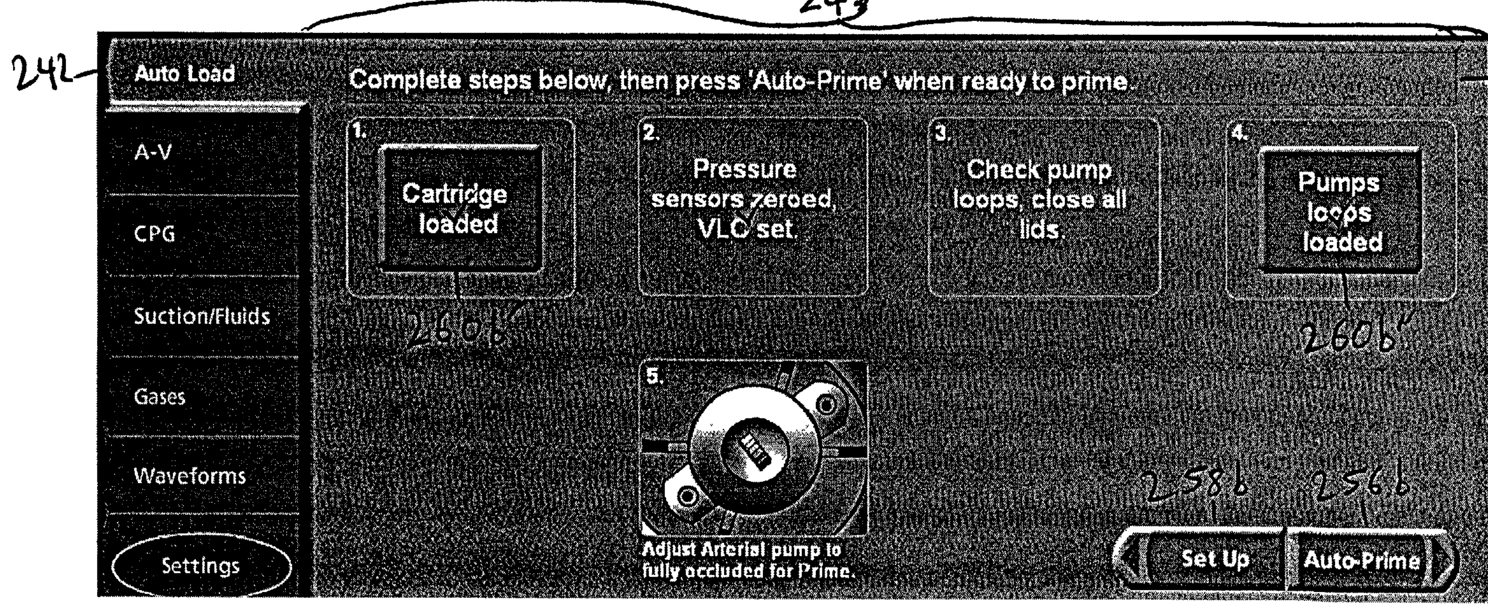


FIG 30C

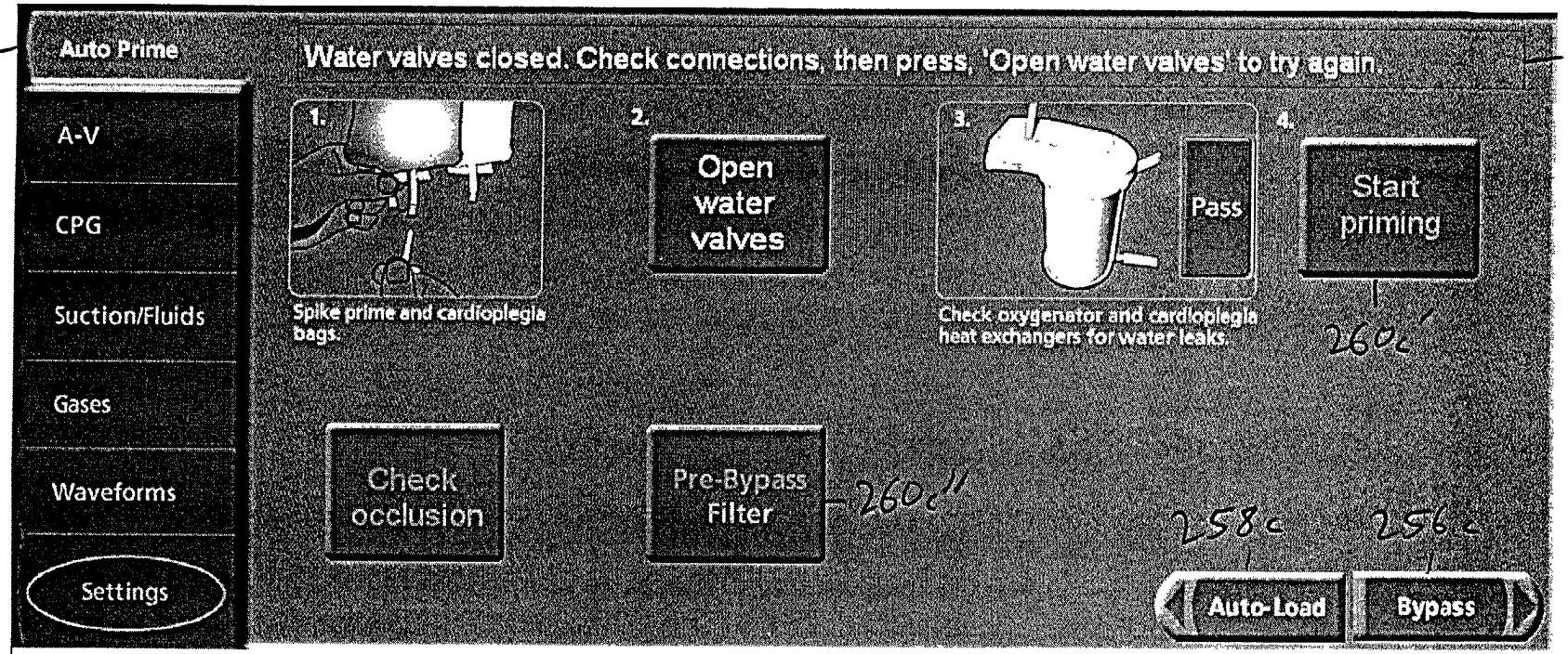


FIG. 30D

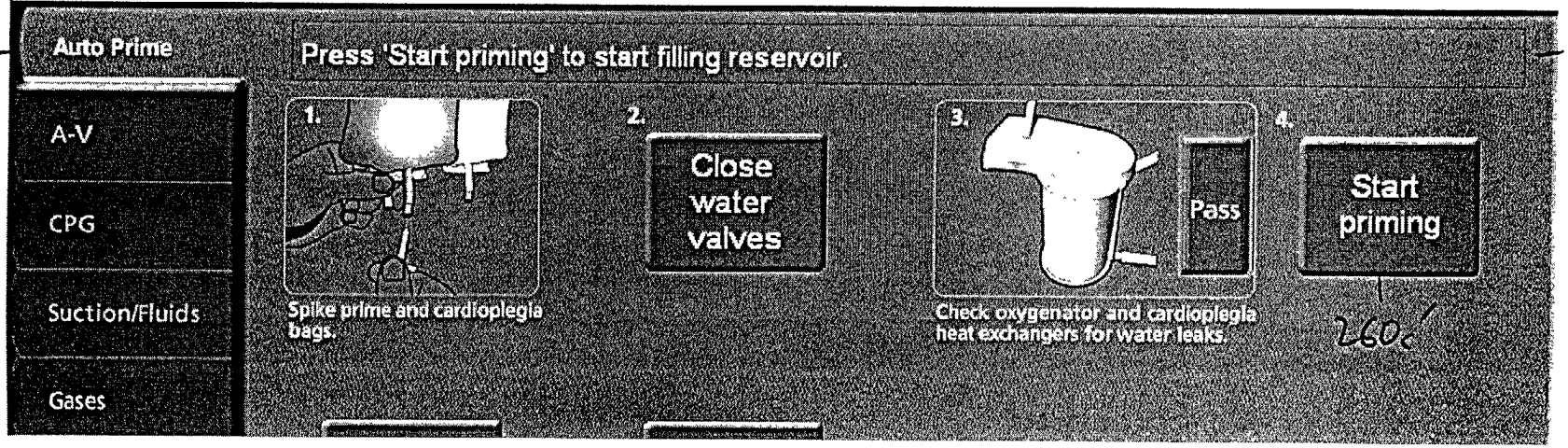


FIG 30E

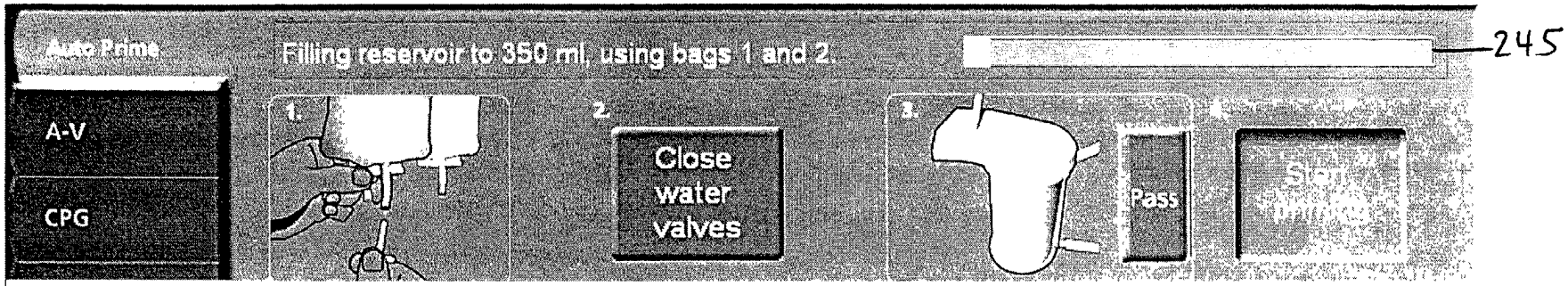


FIG. 30F

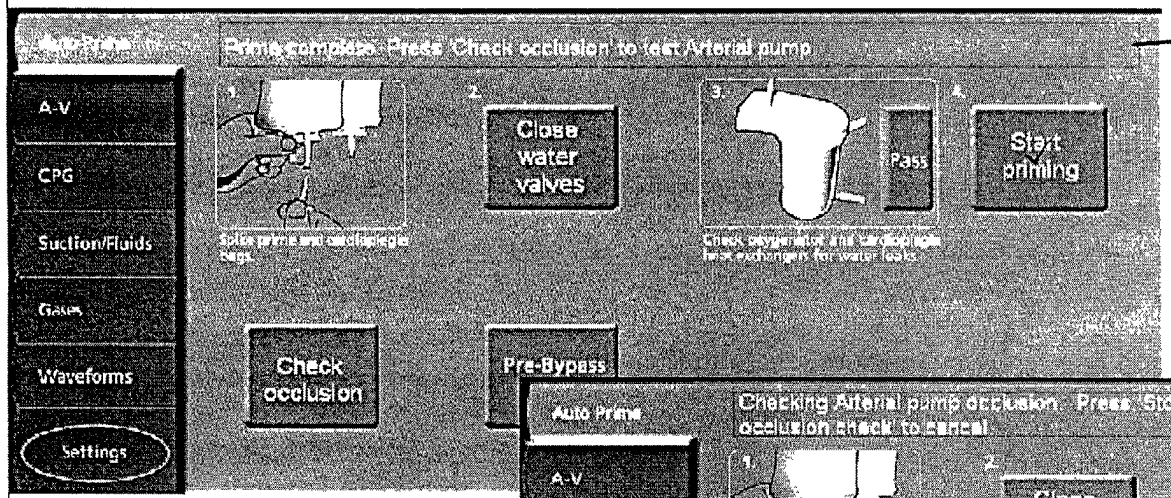


FIG. 30G

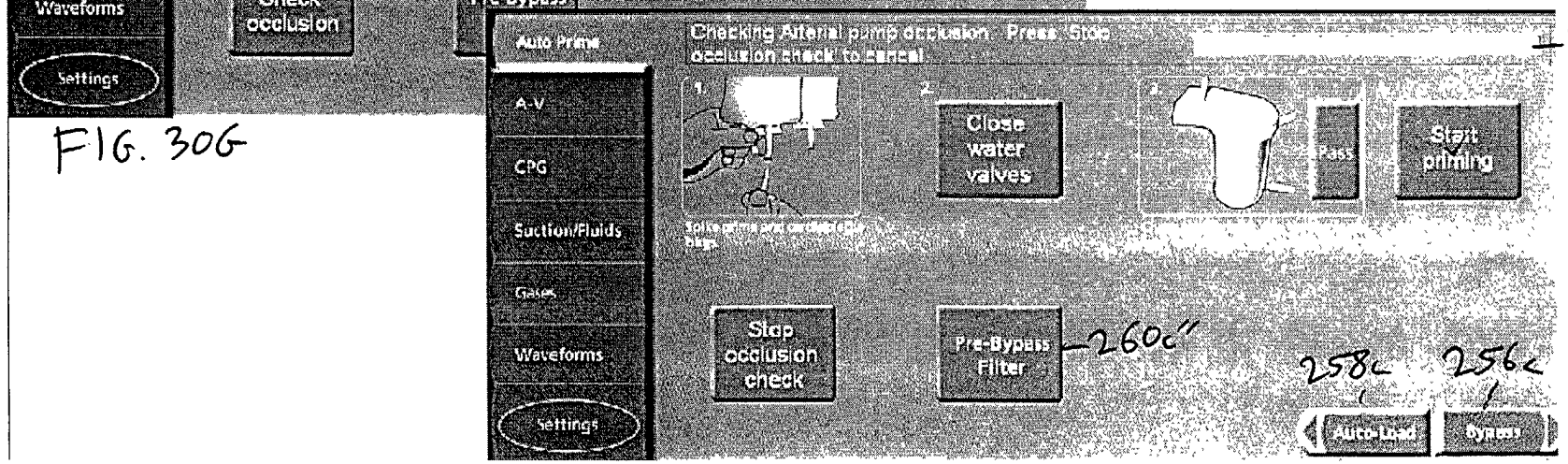


FIG. 30H

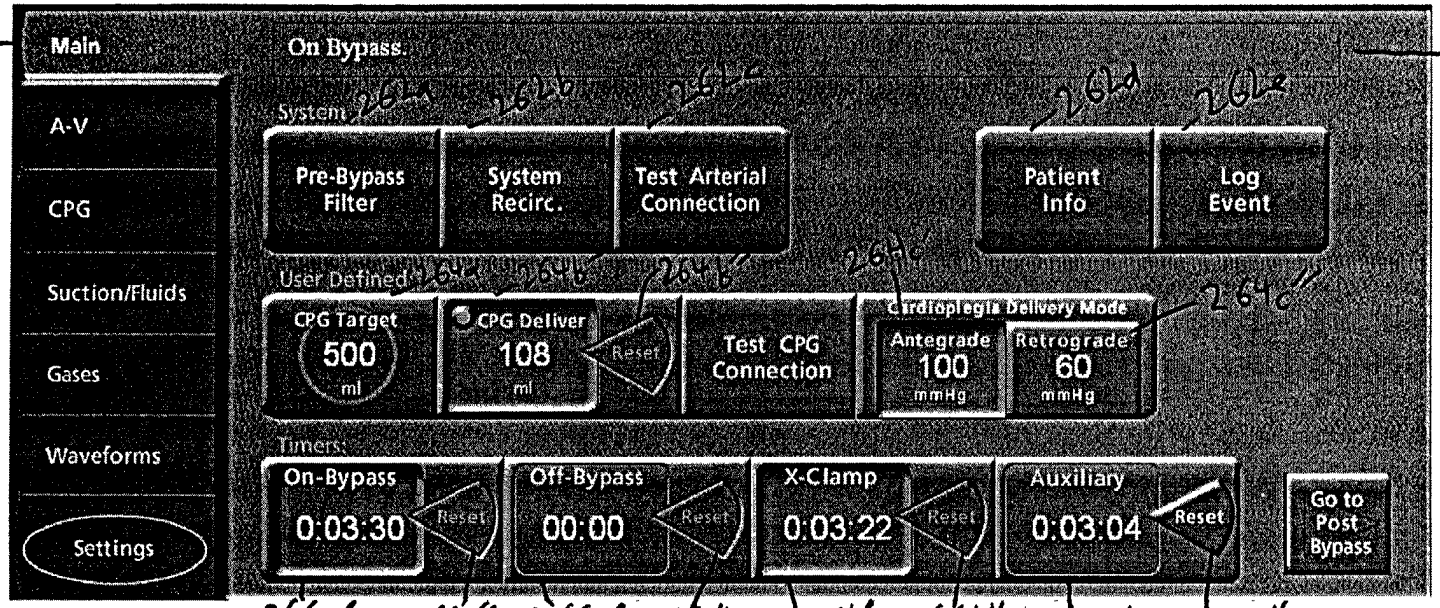


FIG. 30I

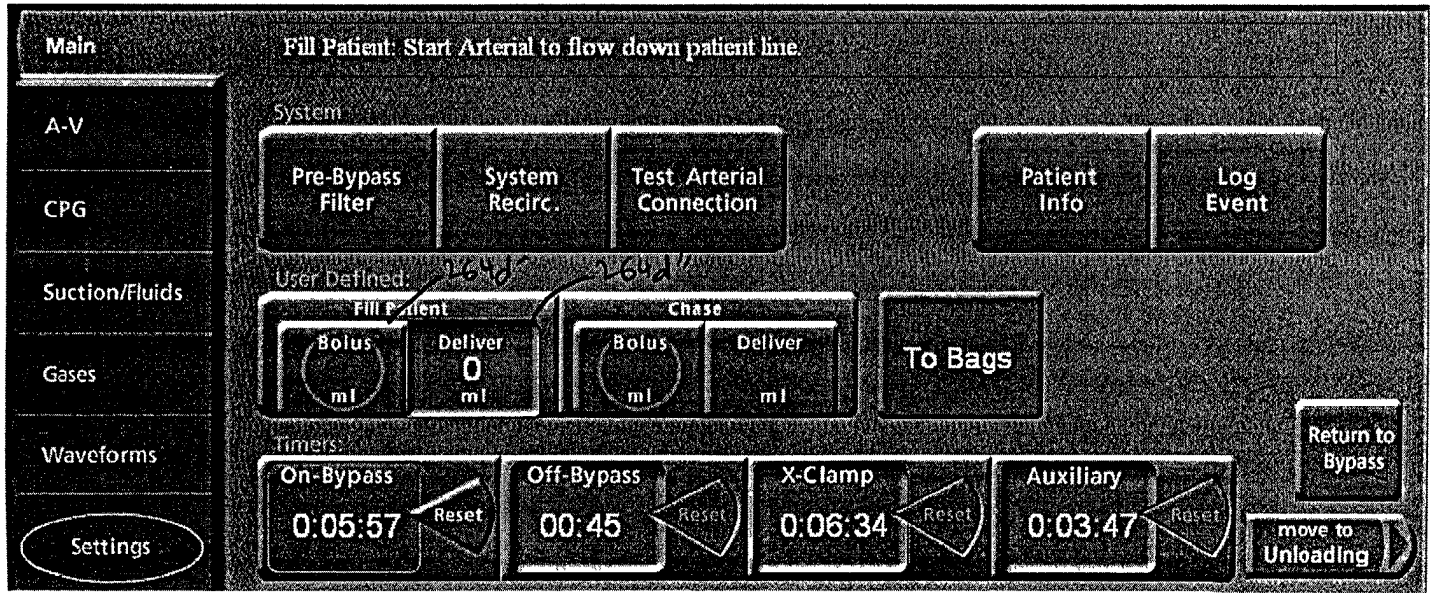


FIG. 30J

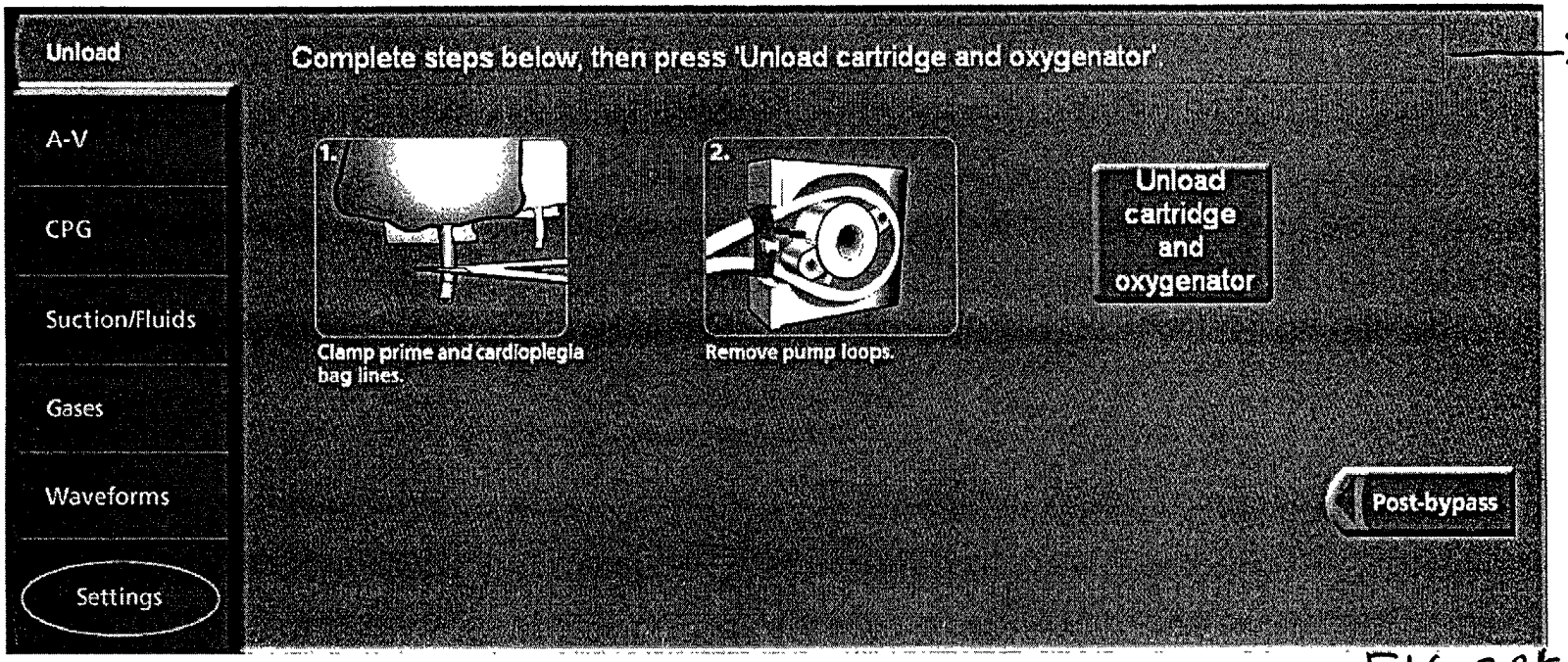


FIG. 30K

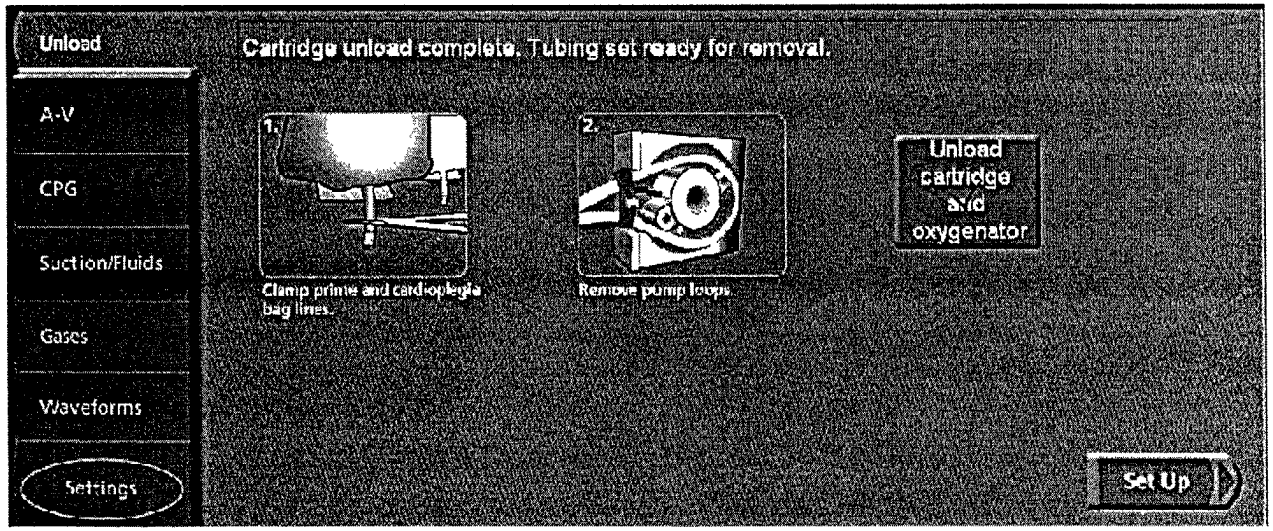
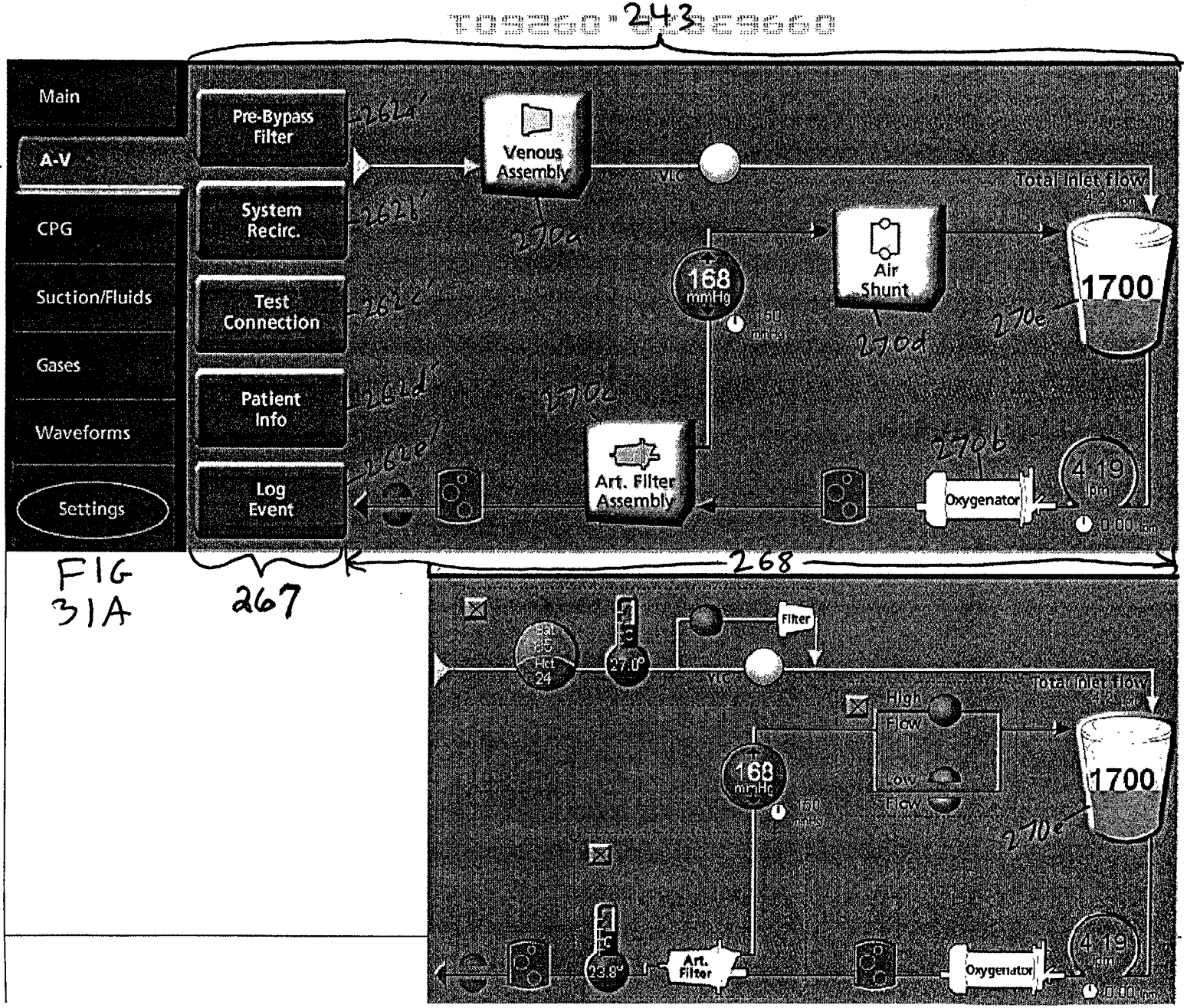


FIG. 30L



244

FIG 31A

FIG. 31B

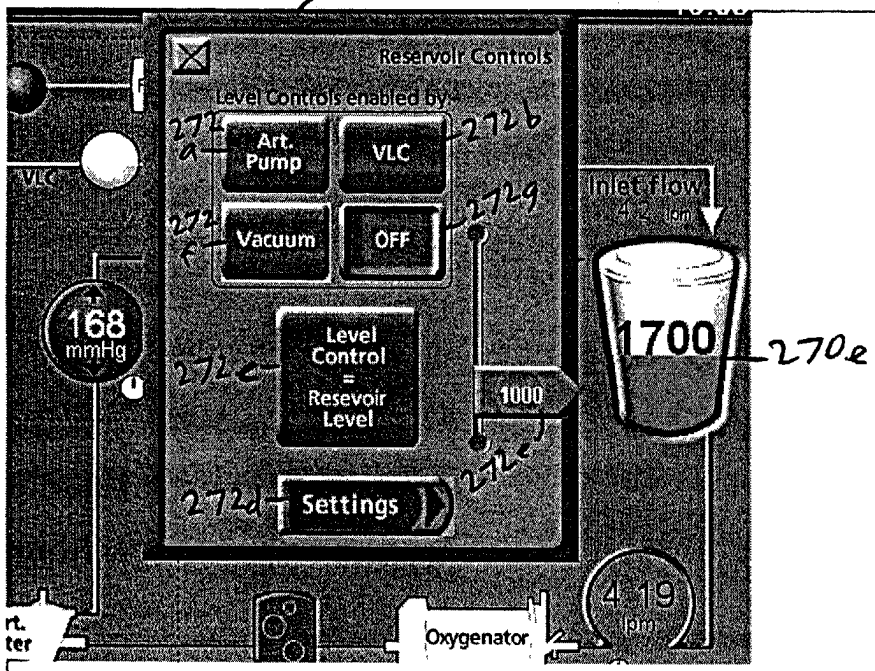


FIG. 31C

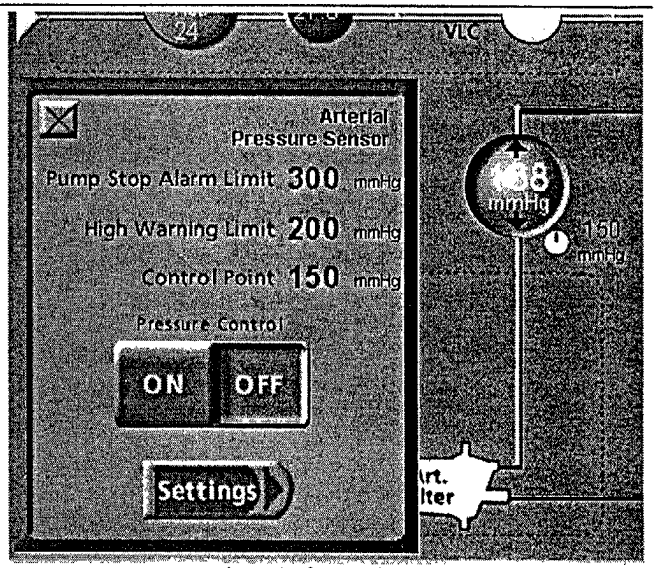


FIG. 31D

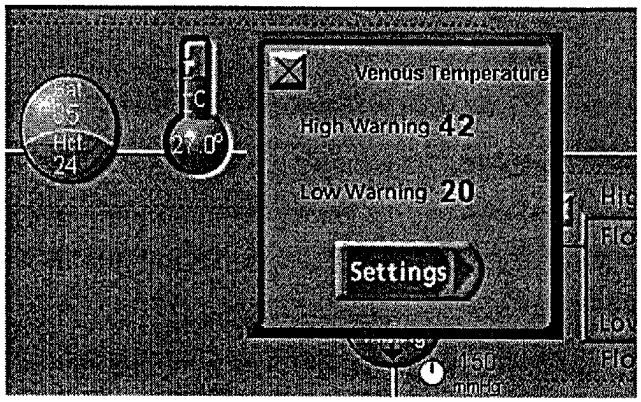


FIG. 31E

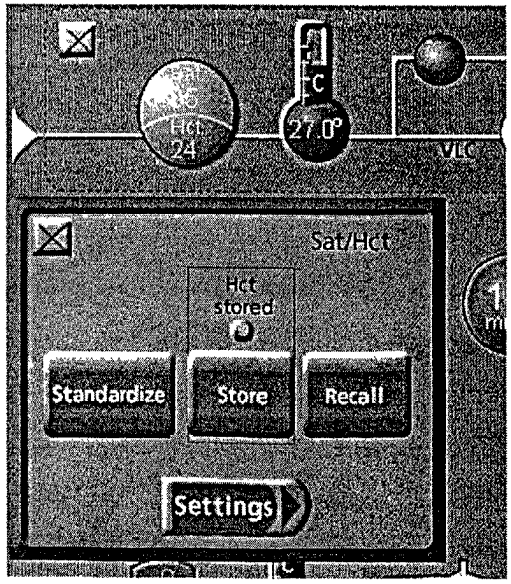


FIG. 31F

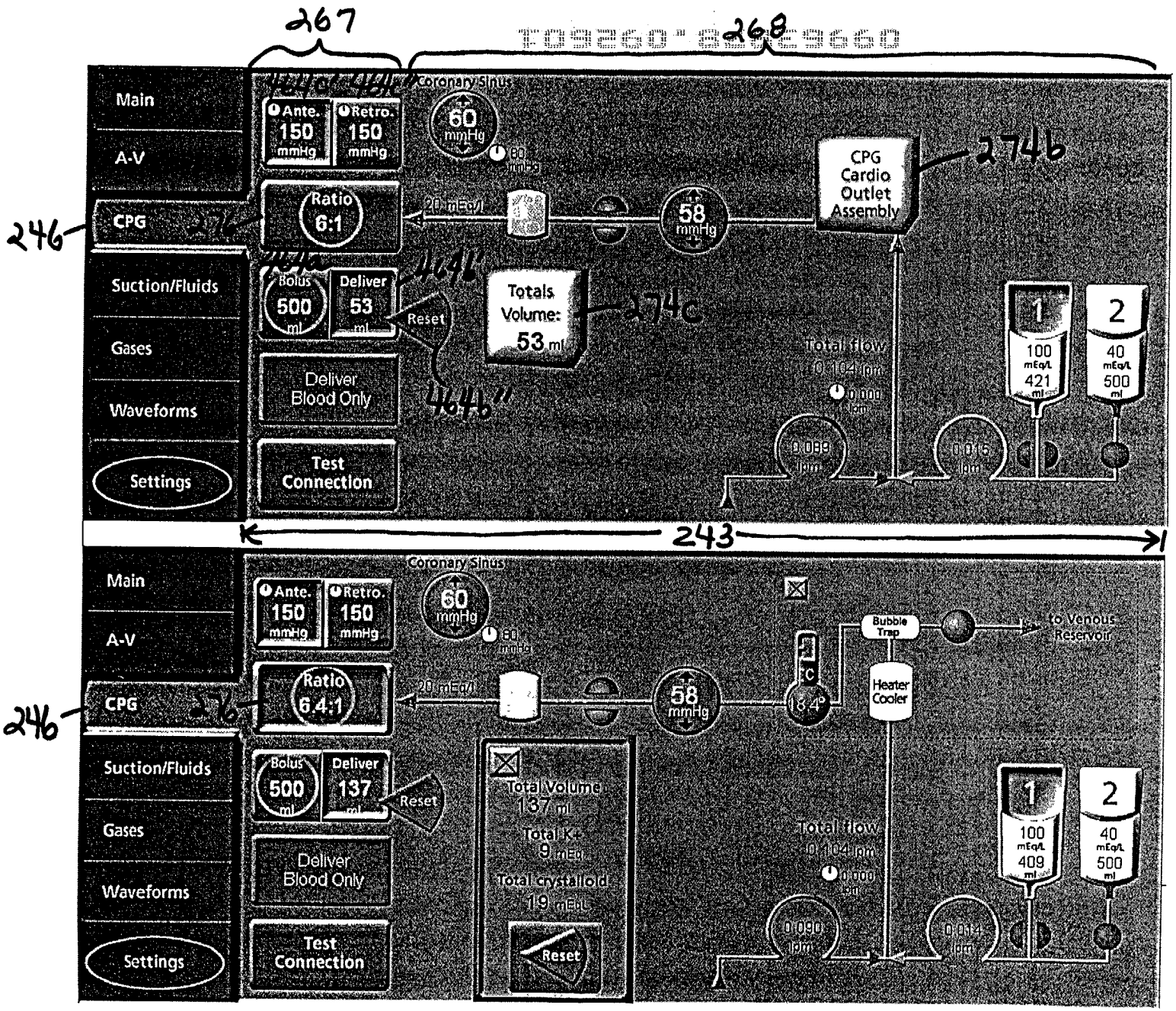
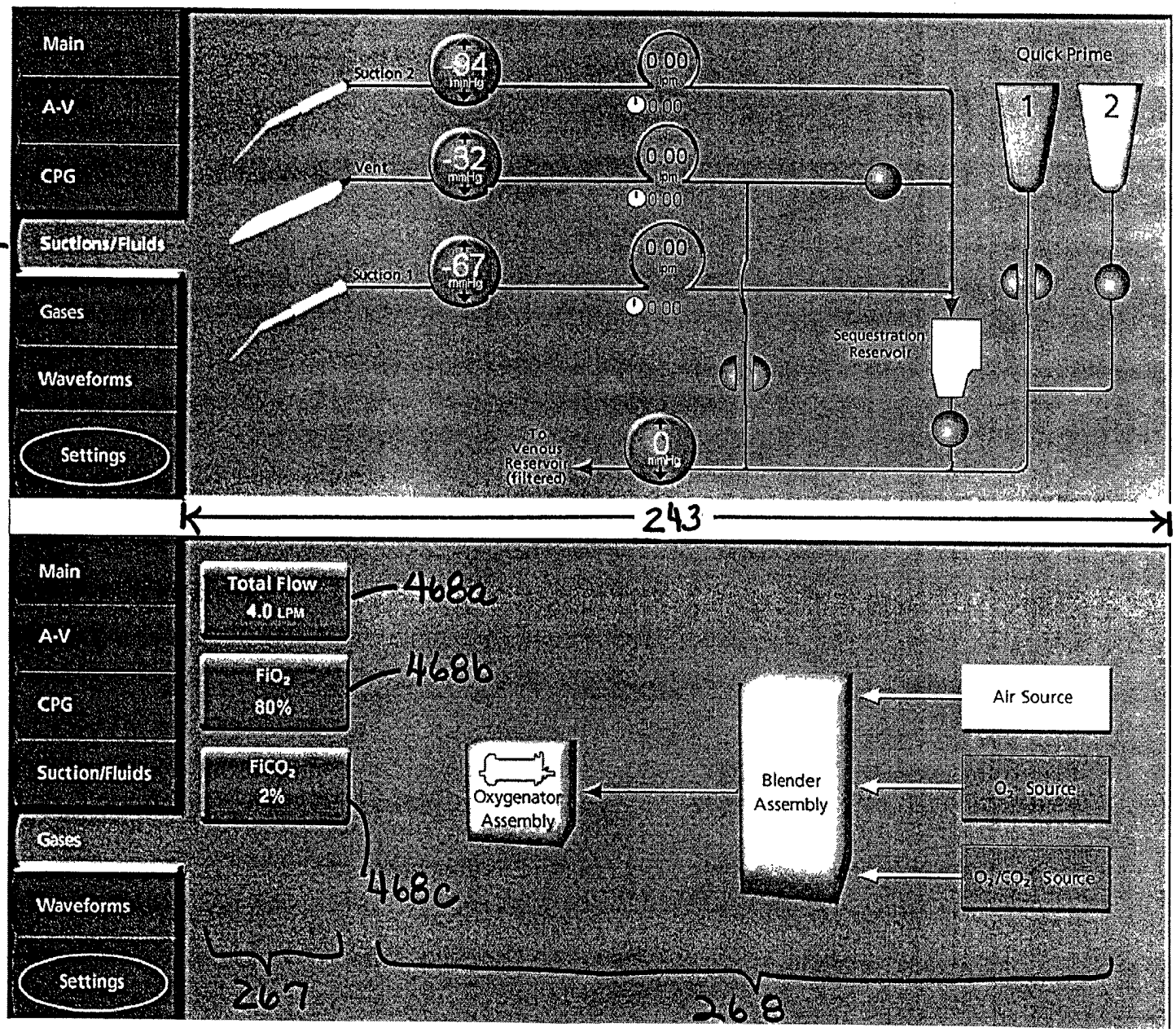


FIG. 32A

FIG. 32B



248

250

FIG. 32C

FIG. 32D

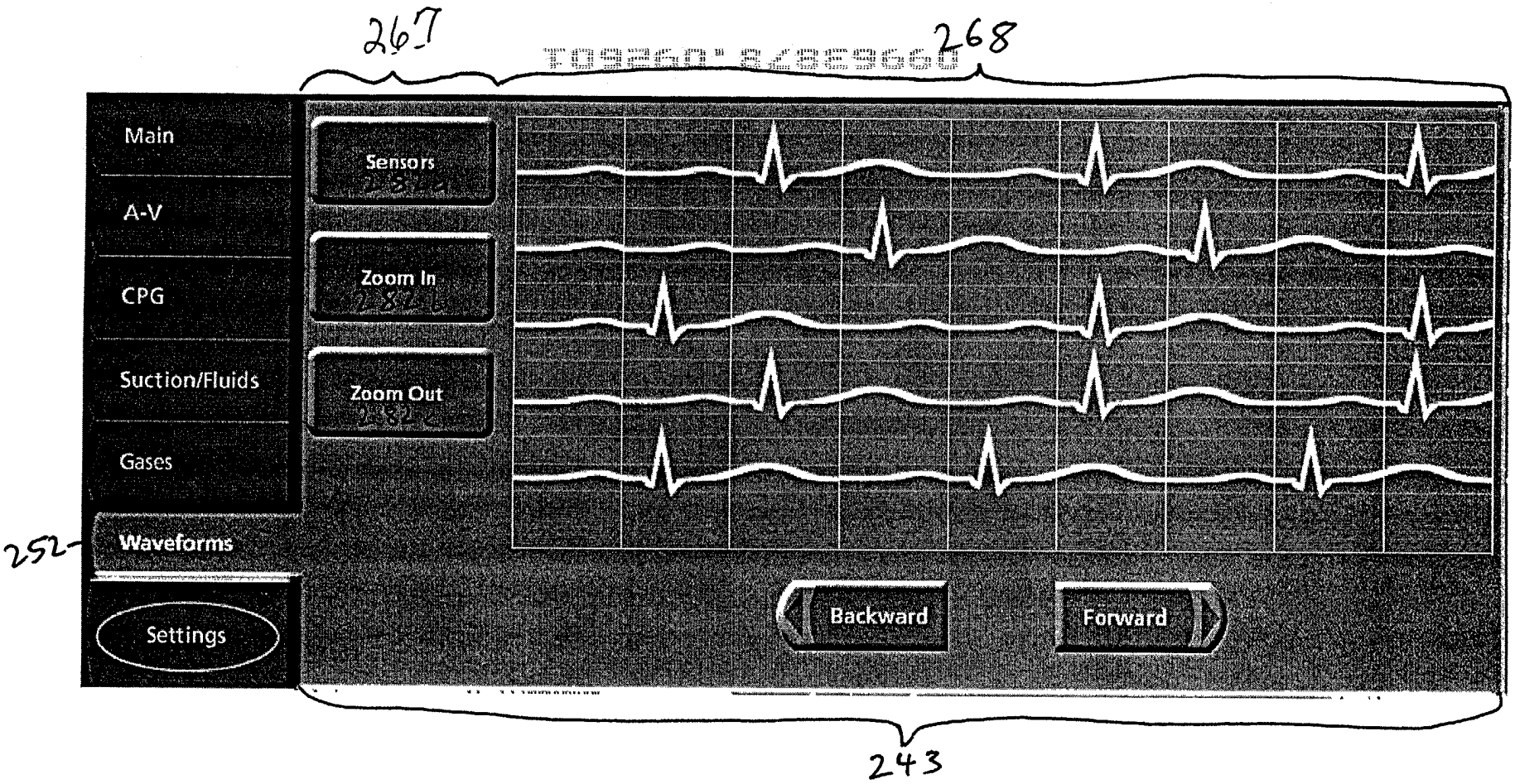

267
268
Main
A-V
CPG
Suction/Fluids
Gases
Waveforms
Settings
Sensors
Zoom In
Zoom Out
Backward
Forward
252
243

FIG. 32E

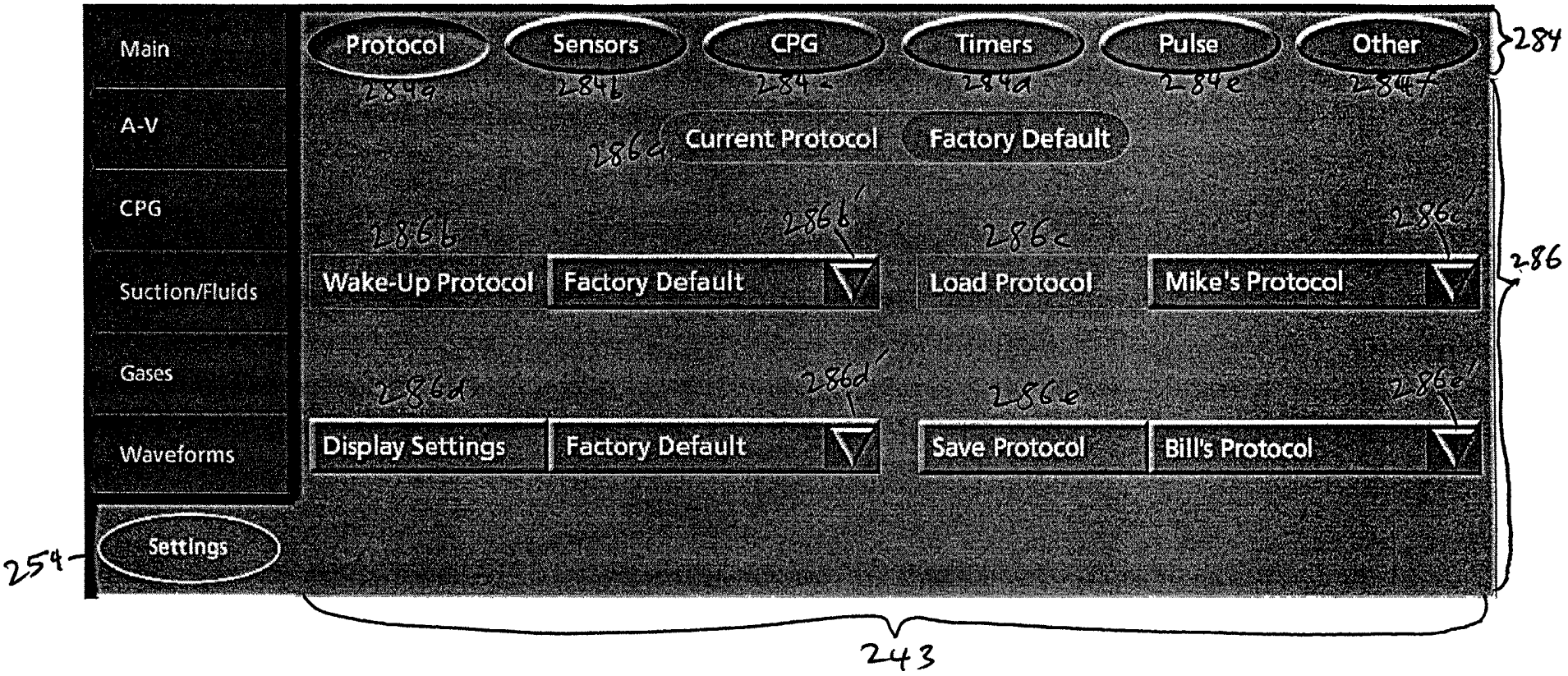

Main
A-V
CPG
Suction/Fluids
Gases
Waveforms
Settings
254
Protocol
Sensors
CPG
Timers
Pulse
Other
284
284a
284b
284c
284d
284e
284f
286d
Current Protocol
Factory Default
286b
286b'
Wake-Up Protocol
Factory Default
286c
286c'
Load Protocol
Mike's Protocol
286
286d
286d'
Display Settings
Factory Default
286e
286e'
Save Protocol
Bill's Protocol
243

FIG. 33A

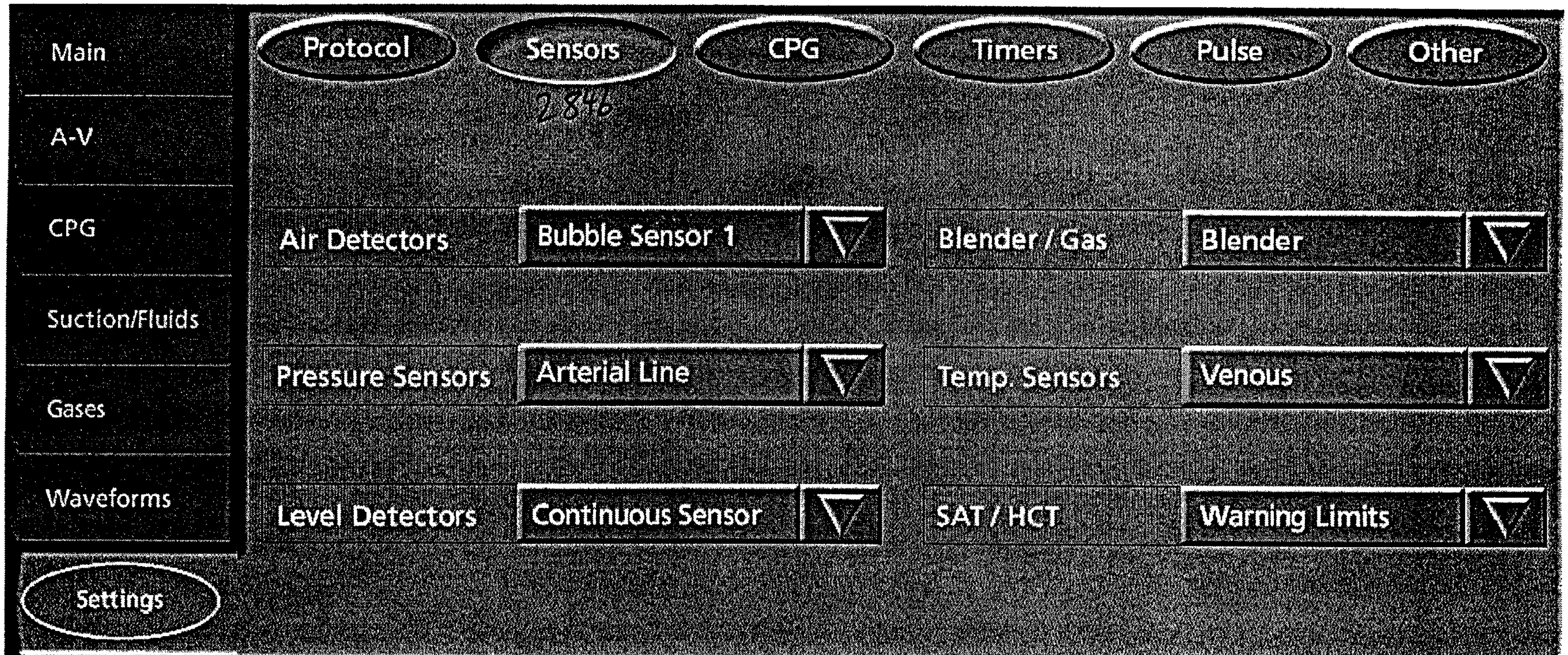


FIG. 33B

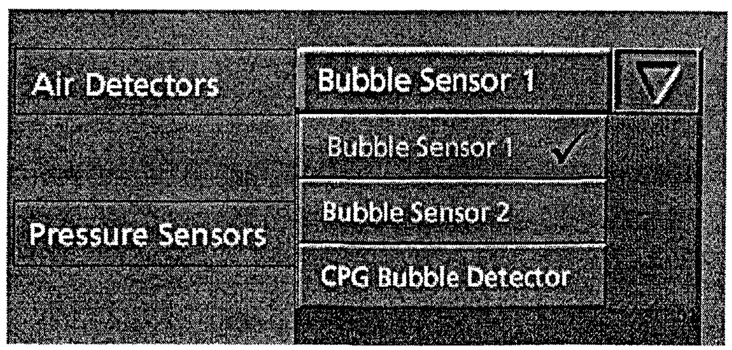


FIG. 33C

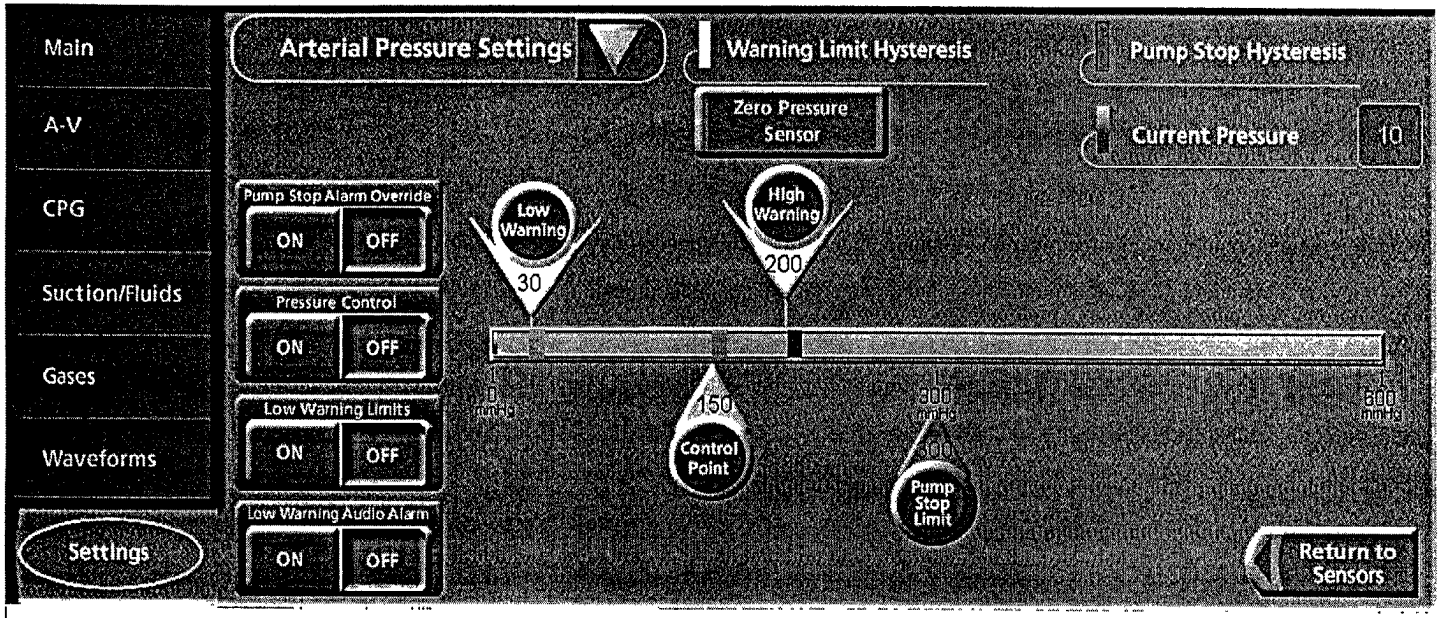


FIG. 33D

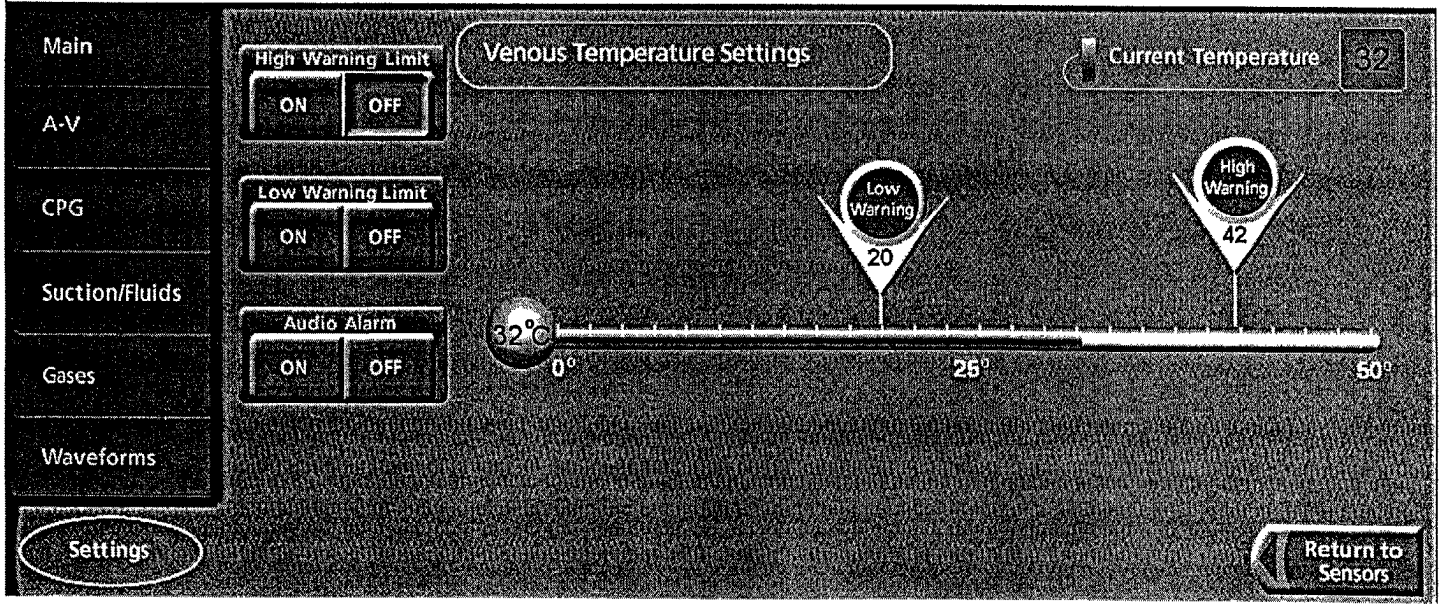


FIG. 33E

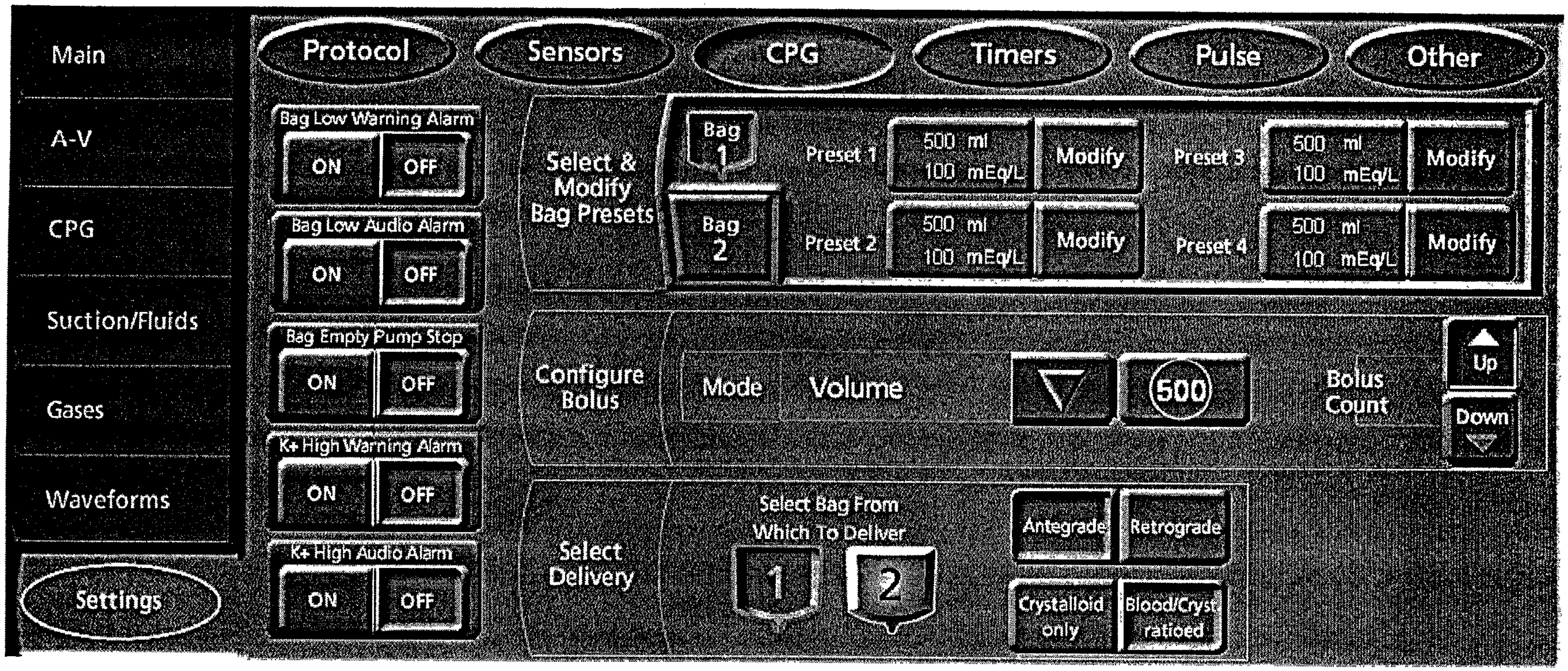

Main
A-V
CPG
Suction/Fluids
Gases
Waveforms
Settings
Protocol
Sensors
CPG
Timers
Pulse
Other
Bag Low Warning Alarm
ON
OFF
Bag Low Audio Alarm
ON
OFF
Bag Empty Pump Stop
ON
OFF
K+ High Warning Alarm
ON
OFF
K+ High Audio Alarm
ON
OFF
Select & Modify Bag Presets
Bag 1
Bag 2
Preset 1
500 ml
100 mEq/L
Modify
Preset 2
500 ml
100 mEq/L
Modify
Preset 3
500 ml
100 mEq/L
Modify
Preset 4
500 ml
100 mEq/L
Modify
Configure Bolus
Mode
Volume
500
Bolus Count
Up
Down
Select Delivery
Select Bag From Which To Deliver
1
2
Antegrade
Retrograde
Crystalloid only
Blood/Cryst ratioed

FIG. 33F